TAPR AO-16 APRS Special Interest Group Archive, January 1999 through February 2000

January 1999 through February 2000

TAPR's forum for APRS and packet-radio experiments using the AO-16 amateur satellite, including PACSAT operation, 9600-baud packet, spacecraft digipeating, telemetry, ground stations, antennas, orbital passes, operating procedures, and integration with APRS software and radios.

This volume contains 9 original monthly files and 265 messages, arranged chronologically. The PDF is a readable access copy: MIME transfer encodings are decoded, HTML bodies are converted to plain text, and non-text attachments are represented by descriptive notes. The raw source text is supplied separately with the Internet Archive item.

Month	Messages	Original source file
1999-01	1	aprssat.9901
1999-02	6	aprssat.9902
1999-08	56	aprssat.9908
1999-09	137	aprssat.9909
1999-10	12	aprssat.9910
1999-11	10	aprssat.9911
1999-12	6	aprssat.9912
2000-01	25	aprssat.0001
2000-02	12	aprssat.0002

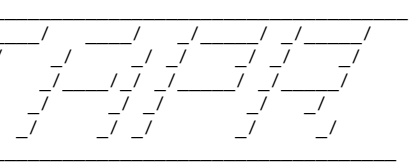
January 1999

Original source file: aprssat.9901
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9901

1. AO16APRS Welcome Message

From: Lyris <lyris@lists.tapr.org>
Date: Sun, 24 Jan 1999 17:01:04 -0600
To: lyris.ao16aprs@tapr.org
Message-ID: <LYR833-373-1999.01.24-17.01.04--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
**********************************************************************
*                PLEASE SAVE THIS WELCOME MESSAGE!                   *
**********************************************************************
```



Welcome to the TAPR AO16 APRS(r) Mail List

APRS, an acronym for Automatic Packet Reporting System, is an integration of hardware and software that allows you to automatically track moving objects (such as vehicles, people, and weather) in real time using maps displayed on your computer monitor.

The hardware side of APRS requires an Amateur Radio station, a packet radio TNC, and a computer to run the APRS software. For accurate APRS operation, many APRS stations also include a Global Positioning System (GPS) receiver in their station.

The software side requires a version of APRS that is compatible with your computer. Bob Bruninga, WB4APR, the father of APRS, wrote the first version of APRS for DOS. Later, Keith and Mark Sproul, WU2Z and KB2ICI, wrote Macintosh (MacAPRS) and Windows (WinAPRS) versions. More recently, Steve Dimse, K4HG, has written software (javAPRS and APRServe) that is intended to interlink all APRS operations via the Internet.

The purpose of the AO16 APRS list is to provide a forum for folks interested
in discussing APRS and topics related to AO16 operations.

The AO16 APRS list has a few simple rules:

1) Stick to the subject (APRS). That means no virus alerts, no chocolate chip cookie recipes, no surplus gear fire sales, no nothing that isn't directly related to APRS.

2) No abusive behavior demonstrated towards a list member will be tolerated on the ao16aprs. Please take your flames elsewhere.

3) I reserve the right to unsubscribe any list member who violates these rules without warning. That means one strike and you're out of here.

The chairperson of the AO16 APRS list is:

Stan Horzepa, WA1LOU
wa1lou@tapr.org
http://www.tapr.org/~wa1lou
One Glen Ave., Wolcott, CT 06716-1442

To post messages to the ao16aprs list, send email to:

ao16aprs@lists.tapr.org

To unsubscribe from this mailing list, surf to:

```
   http://www.tapr.org/cgi-bin/lyris.pl?enter=ao16aprs

or send email to:

   lyris@lists.tapr.org

with the following line in the body of the message:

   unsub ao16aprs


The host of this list is:

   Tucson Amateur Packet Radio (TAPR)
   tapr@tapr.org
   http://www.tapr.org
   8987-309 E Tanque Verde Rd. #337, Tucson, AZ 85749-9399,
   phone 940-383-0000, fax 940-566-2544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Just so that you have all the commands neatly contained in one place,
here is just about everything you will need to know. Note that this list
is running on a Lyris server.  Please be aware that the commands might be
different from those that you are used to using on other list servers.
(For more information on Lyris, see <http://www.lyris.com/>.)


1. First of all, almost everything that you might need to do on the
   server is most easily and effectively performed via Lyris's Web
   interface at <http://www.tapr.org/cgi-bin/lyris.pl>.

2. In case you do not have Web access, here are some key commands; in all
   cases, the default server address is: <lyris@lists.tapr.org>. Other
   addresses are shown where appropriate. Note that commands may be placed
   in either the subject line or in the body of the message:


                SUBSCRIBING:
                  subscribe ao16aprs your_name
                  join ao16aprs your_name
                  alternate address: join-ao16aprs@lists.tapr.org

                UNSUBSCRIBING:
                  unsubscribe ao16aprs
                  leave ao16aprs
                  alternate address: leave-ao16aprs@lists.tapr.org

                SETTING MEMBERSHIP TO DIGEST MODE:
                  set ao16aprs digest

                SETTING MEMBERSHIP TO INDEX MODE:
                  set ao16aprs index

                SETTING MEMBERSHIP TO DISCUSSION MODE:
                  set ao16aprs mail

                TEMPORARILY SUSPENDING MAIL FROM THE LIST:
                  set ao16aprs nomail

                RESUMING MAIL FROM THE LIST:
          (command depends on your preferred mode)
                  set ao16aprs mail
                  set ao16aprs digest
                  set ao16aprs index

                ACKNOWLEDGMENT:
                  set ao16aprs ack
                    (sends you a confirmation message when your posts are sent)
                  set ao16aprs noack
                    (no confirmation message when posts are distributed)

                RECEIVING COPIES OF YOUR OWN POSTS:
                  set ao16aprs repro
                    (receive copies of your own posts)
                  set ao16aprs norepro
                    (do not receive copies of your own posts)
```

```
SETTING YOUR PASSWORD:
  set ao16aprs pw=mypassword
    (where "mypassword" is the password you wish to set)

DETERMINING YOUR MEMBERSHIP SETTINGS:
  query ao16aprs

RETRIEVING THE CURRENT VERSION OF THIS DOCUMENT:
  get ao16aprs hello

MORE INFORMATION ON LYRIS'S COMMANDS:
  help

POSTING TO THE LIST:
  You must be a subscriber to post messages. Sending
  mail to this address will distribute it to all the members of the
  mailing list:  ao16aprs@lists.tapr.org
```

3. CHANGING YOUR SETTINGS/ADDRESS VIA THE WEB INTERFACE: To do this, go to <http://www.tapr.org/cgi-bin/lyris.pl> and click the link in the "Change Your Settings" section. You'll need to enter your e-mail address and password (if you chose one) to continue.

   (If you've forgotten your password, you can type in your e-mail address in the field at the bottom of the page and click "Get password" to request Lyris to e-mail your password to you.)

   At the following page, you can read messages, post a message, adjust your settings, or unsubscribe. From the settings page, you can change your status (MAIL, DIGEST, INDEX, or NOMAIL), choose whether or not to see your own messages, and choose whether or not you want to receive a separate acknowledgement via e-mail when one of your messages is posted to the list, You can also change your e-mail address if you need to. When you change your settings, make sure you click the "Save" button at the bottom of the page.

4. ARCHIVES: The ao16aprs SIG archives are available on the Web, at the following URL: <http://www.tapr.org/sigf.html>

5. BOUNCED MAIL: One of the key features of Lyris is its ability to handle mail bounces transparently to the list owner; as such, bounced mail will be handled primarily by the Lyris list server.

6. POSTS/REPLIES FROM DIGEST USERS: You *must* change the Subject: line when replying to a digest; all posts with "ao16aprs DIGEST" in the Subject: line will be rejected by the server (you will receive a "rejection letter" when this happens).

APRS(r) is registered to Bob Bruninga, WB4APR.

February 1999

Original source file: aprssat.9902
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9902

1. [ao16aprs] HTAPRS expanded for VC H1

From: "Horzepa, Stan" <Stan_Horzepa@adc.com>
Date: Mon, 15 Feb 1999 14:38:30 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-5608-1999.02.15-14.40.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The purpose of the TAPR HTAPRS SIG has been expanded to include discussion of Kenwood's VC H1 (KenCam) and related issues, such as the Automatic Picture Relay Network (APRN). So, talk among yourselves about VC H1 on HTAPRS.

Stan, WA1LOU, *SIG administrator

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] 1200 baud pacsats for APRS

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 22 Feb 1999 11:37:12 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-7207-1999.02.22-10.38.56--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

---------- Forwarded message ----------
Date: Mon, 22 Feb 1999 10:45:34 -0500
From: Vince Risalvato <vincesr@gte.net>
To: Bob Bruninga <bruninga@nadn.navy.mil>
Subject: Re: [amsat-bb] A Newcomer question(dumb)

>Three underutilized birds on orbit, a perfect worldwide application, and
>just no way to get a critical mass of people all interestd at the same
>time!

Bob, I'd be really interested, but it seems like there is a need for full time internet connections at your key stations. That just isn't in the budget for folks like me. Maybe I don't have the big picture....what are the internet requirements for these "critical mass" stations?

Just curious, I saw your presentations at Vicksburg and felt sure that there were going to be enough folks with the resources to make this take off. I am a strong proponent of small sats that do the kinds of things you envision. Like you say, there are already sats that can be used to promote the concept.

Is there an APRS list I can lurk for a while to get some of the basics? I am looking for a justification to set up my ground station again. The parts are all collected, most of them are working... the main piece, the TS790 is now back on-line.

73,

Vince Risalvato
KD7AI
Zephyrhills, FL

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

3. [ao16aprs] TAPR Technology Demo Day

From: "Horzepa, Stan" <Stan_Horzepa@adc.com>
Date: Mon, 22 Feb 1999 11:53:25 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-7216-1999.02.22-11.55.40--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

From: Greg Jones, WD5IVD [mailto:wd5ivd@tapr.org]
Sent: Monday, February 22, 1999 11:33 AM

To: TAPR Announcement List
Subject: [tapr-bb] TAPR Technology Demo Day

TAPR is proud to announce the first annual Technology Demo Day
sponsored by the TAPR APRS SIG.

The purpose of this event is to demonstrate technology independence at the
location of Field Day. Technologies like Packet Radio, SSTV, ATV, Spread
Spectrum, IGates and other operating modes accessed via RF means only will
be allowed, since this reflects current emergency situations at disaster
scenes in our present day world.

The 1999 Technology Demo Day is to coincide with the ARRL Field Day.

Full details are available at http://www.tapr.org/tdfd

1999 Technology Demo Day

* Commercial Power Restriction
  No commercial power is allowed for stations submitting a score.

* Band of operation:
  Any frequencies that are currently allowed for the mode in use. HF,
  VHF, etc

* Use of networks and digipeaters:
  Digipeaters, Networks, can be used for contacts
  All APRS paths allowed.
  Sites must use RF (No direct Inet)

* Participants:
  Any licensed amateur radio operator may participate.
  Particpants that are at a direct connection to the net can participate
  but are not permitted to submit scores.

* Operator Designations:
  Single Operator designated by "SO".
  Multi Operator by "MO"
  No Operator by "NO"

* Minimum exchange consists of:
  Call Sign, ARRL section, Operator Designation (SO, MO, NO)

* Submission of scores:
  Do not send your Logs. Send only your score.
  Send your score to kb2scs@worldnet.att.net or use
  http://www.tapr.org/tdfd
  Scores must be submitted within two weeks of the end of the event.

* Points:
    - 25 points for receiving the ARRL message in digital form

    - 2 points for every LIVE packet QSO (packet network, conference
      nodes, digis, etc)

    - 1 point for every APRS station "received"
    - 2 points for every APRS station exchanging messages

    - 25 points for receiving ATV signals from a range over 5 miles
    - 25 points for transmitting ATV to another station over 5 miles

    - 5 points for every received SSTV picture received
    - 5 points for every transmitted SSTV contact

    - 25 points for receiving any Satellite digital MESSAGE
    - 25 points for transmitting any Satellite digital Message.

    - 25 points for making a complete exchange using Spread Spectrum
    - 5 points for each Spread Spectrum contact thereafter

Suggested Operating instructions

```
   * HOOK UP YOUR SPEAKER.
     If you aren't listening to the packets, then you may not know what is
     going on the channel. TNC's do not detect collisions. DCD's do not
     either, so just because the little green light is OFF, does not mean
     the channel is not all QRM
   * Operate normally.
     USE SHORT packets and MINIMUM PATH.
     Use WIDEN-N where possible.
     Keep hops practical for your area. (any more than 3 probably
     impossible)..
     Work everyone you see on mail/traffic pages.
   * ACKS are not required!
     If you get a QSL message from the other station, don't wait for an ACK.
     Erase the outgoing message to reduce QRM!
   * Internet Gateways
     The key here is that IGates only pass through MESSAGEs to LOCAL
     stations in their area. This means you can QSO with anyone if you
     already know their callsign! You will probably NOT see their posits
     since only messages go via IGates (normally). This is why you should
     always include your GRIDSQ in all of your text messages.
     Here are some ways we have come up with to get around these quirks for:
        * a) Assume an SSID of -6 for stations and guess at some
          APRS calls...
        * Watch your traffic list. As soon as anyone QSO's anyone in your
          area, you will see them for a return QSO.
        * Send a CQ FD MESSAGE with your GRIDSQ and report to a DIGI in a
          known area with an IGate. This will go through all IGates.
        * Do a MAPS-OVERLAY-DIGIS for an area to see a good target call.
          (See C)
        * Do NOT send CQFD or TARGET messages until you have exhausted all
          other contacts, else we may totally BLOCK the RF channels around
          IGates.
        * Once you are working via IGATES, PLEASE minimize your path to ONLY
          the hops needed to hit your local IGate.
        * Home Stations If you are not going to operate, please
          set up your UN-ATTENDED home station for AUTOREPLY with something
          like 'QSL. [gridsq].(NO), ARRL section, etc. For APRSdos this
          simply means send ONE message to the callsign of REPLY and make
          sure this message is the first in your SEND list.


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APRS® is registered to Bob Bruninga, WB4APR.
--------------------------------------------------------------------------
Tucson Amateur Packet Radio
8987-309 E Tanque Verde Rd #337 * Tucson, Az * 85749-9399
--------------------------------------------------------------------------
e-mail: tapr@tapr.org       web: <http://www.tapr.org/>
ftp:    ftp.tapr.org
phone:  940-383-0000        fax: 940-565-2544
--------------------------------------------------------------------------

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
```

4. [ao16aprs] Re: AO-16 Groundstation

```
From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 22 Feb 1999 18:18:15 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: wb4apr@amsat.org
Message-ID: <LYR833-7279-1999.02.22-17.20.03--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

For the rest of the group, it sounds like we may have another ground
station coming up soon..

bob

```
> Bob,
>   I'm not sure I've told you this, but Jim Sanford, WB4GCS, has agreed
> to attempt to be an east coast AO-16 et al groundstation.  He has an
> automatic satellite station, with directed az/el antennas, and a cable
> modem, so he is available 24/7 to provide the service.  We will start
> working the setup when he gets back...
```

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
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5. [ao16aprs] equipment required

From: "Scott Anderson" <scottra@usa.net>
Date: Thu, 25 Feb 1999 5:37:41
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-7674-1999.02.25-05.39.05--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am going to have a shot at doing pacsat/mir APRS for an upcoming trip I
am taking (central/south america, not exactly sure yet), and after reading
through the archives, still have some questions regarding a minimal
(backpacking) rig (th-d7, gp-35, palm).

1. Seems to be the consensus that the optimal antenna would be to take
along two, a comet 19" whip, and a 1' uhf yagi. Wasn't able to find the 1'
uhf yagi, however. Was this a homebrew?

2. There was some talk on messages Oct 18/98 "new amsat mobile sat comms"
and on Nov 17/98 "9600 bd PACSAT Mobile Messages" about ideas for uplinking
AORS messages for "registered users, but it doesn't look like any progress
has been made on this yet, right?

3. Bob mentioned a mod for full duplex cross-band on the th-d7 for sat
coms, bu this doesn't seem necessary for a few beacons a day, especially
when I'd need to change antennaes anyway, correct?

Regards,

Scott
VE7OHF
scottra@usa.net

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] Re: equipment required

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 25 Feb 1999 13:42:32 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-7721-1999.02.25-12.43.55--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For the wilderness traveler, the best thing right now is a THD7 via MIR
using APRS mode. But this is bent-pipe digi only. SO unless someone is
in the same footprint and can respond or can forward, it is only going to
give you a 1500 km range...

OOPS, of course, if you have a laptop, then just logonto the MIR BBS as a
normal 1200 baud packet user and send and receive your traffic that way..

 On Thu, 25 Feb 1999, Scott Anderson wrote:

> I am going to have a shot at doing pacsat/mir APRS for an upcoming trip I
> am taking (central/south america...
>
> 1. Seems to be the consensus that the optimal antenna would be to take
> along two, a comet 19" whip, and a 1' uhf yagi. Wasn't able to find the 1'
> uhf yagi, however. Was this a homebrew?

Ues, 19" whip for MIR, UHF yaggi for Pacsat downlink receive only
Of course, most hams have no use for such a low gain UHF yagi, but
Cushcraft and others sell them as "commercial" antennas, so ask for their
commercial listings... Probably 4 elements would be better if you can
make it fit in your bag...

> 2. There was some talk on messages Oct 18/98 "new amsat mobile sat comms"
> and on Nov 17/98 "9600 bd PACSAT Mobile Messages" about ideas for uplinking
> AORS messages for "registered users, but it doesn't look like any progress
> has been made on this yet, right?

Correct.. ALl talk and no do ....

> 3. Bob mentioned a mod for full duplex cross-band on the th-d7 for sats

*** It did not work. The one jumper mod forgot about the DCD for each

modem and all the switching needed to get around that. We abandoned it.

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August 1999

Original source file: aprssat.9908
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9908

1. [ao16aprs] Looking for nearby APRS elmers.

From: Tim Connolly <kb8eht@access.mountain.net>
Date: Sun, 01 Aug 1999 22:43:17 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-32527-1999.08.01-21.53.06--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'd like to fire up a Internet APRS gateway to RF in my area. We
have a pretty good repeater site which reaches into SW PA, W MD and the
northern half of West Virginia (usa). Anyone out there in this general
area ?

-- kb8eht@kb8eht.ampr.org Tim Connolly
-- kb8eht@kb8eht.#ncwv.wv.usa.noam   Morgantown, WV
-- ICQ# 601237 by request only   aka: tec@mountain.net
-- '94 Suzuki GSX750F-CA "Katana"

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] Re: Looking for nearby APRS elmers.

From: Earl Needham <KD5XB@AMSAT.ORG>
Date: Sun, 01 Aug 1999 20:49:45 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-32529-1999.08.01-21.59.25--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 10:43 PM 8/1/99 -0400, Tim Connolly sent:
>   I'd like to fire up a Internet APRS gateway to RF in my area. We
>have a pretty good repeater site which reaches into SW PA, W MD and the
>northern half of West Virginia (usa). Anyone out there in this general
>area ?
>
>-- kb8eht@kb8eht.ampr.org Tim Connolly
>-- kb8eht@kb8eht.#ncwv.wv.usa.noam   Morgantown, WV
>-- ICQ# 601237 by request only   aka: tec@mountain.net
>-- '94 Suzuki GSX750F-CA "Katana"

        HUH? It's been so long since I got mail that I had forgotten I was on this list! <G>

        Earl

Earl Needham, KD5XB   mailto:KD5XB@AMSAT.ORG
Clovis, New Mexico   DM84jk N34d 25.446 W103d 12.700 (or so)

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

3. [ao16aprs] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 24 Aug 1999 12:52:01 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@amsat.org, sarex@amsat.org,
        TAPR APRS Special Interest Group <aprssig@tapr.org>, aprsnews@tapr.org
Message-ID: <LYR833-35995-1999.08.24-12.03.00--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

With the loss of MIR as the only AX.25 digipeater in space for wilderness
travelers and off-shore sailors to digipeat their Position/Status, there
is renewed interest in using the AO-16, LU-19 and IO-26 1200 baud AX.25
digipeaters for brief UI packet reporting.

The transmit side is trivial (a $3 mod to any TAPR-2 type TNC). Thus,
anyone with a 5 watt or more mobile rig can report. All we
have ever needed are a few automated UHF PSK downlink stations to digipeat
these packets back into the worldwide APRServe distribution system.

There are several recent things making this application more viable:

1) The pending shut down of MIR digipeater
2) More interest worldwide in APRS UI position/status reporting
3) Steve Bible's work on a universal PIC manchester transmitter
4) A possible student project at my school to do the daily downlink
    tracking until we can automate it...
5) A surprise announcement (from an author) coming soon...

If you are already on the AO16APRS@TAPR.ORG distribution list, good. If
you want to join, then send the usual subscribtion message to
LISTSERV@TAPR.ORG

To learn more: http://web.usna.navy.mil/~bruninga/traknet.html

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You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

4. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Wed, 25 Aug 1999 14:12:25 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36174-1999.08.25-07.25.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

-----Oorspronkelijk bericht-----
Van: Bob Bruninga [mailto:bruninga@nadn.navy.mil]
Verzonden: dinsdag 24 augustus 1999 18:52
Aan: ao16aprs@tapr.org
CC: amsat-bb@AMSAT.Org; sarex@AMSAT.Org; TAPR APRS Special Interest
Group; aprsnews@tapr.org
Onderwerp: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

With the loss of MIR as the only AX.25 digipeater in space for wilderness
travelers and off-shore sailors to digipeat their Position/Status, there
is renewed interest in using the AO-16, LU-19 and IO-26 1200 baud AX.25
digipeaters for brief UI packet reporting.

The transmit side is trivial (a $3 mod to any TAPR-2 type TNC). Thus,
anyone with a 5 watt or more mobile rig can report. All we
have ever needed are a few automated UHF PSK downlink stations to digipeat
these packets back into the worldwide APRServe distribution system.

There are several recent things making this application more viable:
1) The pending shut down of MIR digipeater
2) More interest worldwide in APRS UI position/status reporting
3) Steve Bible's work on a universal PIC manchester transmitter
4) A possible student project at my school to do the daily downlink
    tracking until we can automate it...
5) A surprise announcement (from an author) coming soon...

If you are already on the AO16APRS@TAPR.ORG distribution list, good. If
you want to join, then send the usual subscribtion message to
LISTSERV@TAPR.ORG

To learn more: http://web.usna.navy.mil/~bruninga/traknet.html

Oke i'm willing to give it a try.

What do i need to get started, i've got a tnc2 (tf2.7b firmware), a g3ruh
modem with scc-card, a ts790e and duoband ant and a 70cm 10 element beam.

will this be enough or do i need to invest in more stuf.

73 de Andre PE1RDW

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

5. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: David Nesting <david@fastolfe.net>
Date: Wed, 25 Aug 1999 07:46:57 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>

Message-ID: <LYR833-36180-1999.08.25-07.57.02--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, Aug 25, 1999 at 02:12:25PM +0200, Schayk A.H. van wrote:
   :
   : What do i need to get started, i've got a tnc2 (tf2.7b firmware), a g3ruh
   : modem with scc-card, a ts790e and duoband ant and a 70cm 10 element beam.
   :
   : will this be enough or do i need to invest in more stuf.

Yah that's kinda what I'm curious to know. Is there any inexpensive
equipment that would automate the tracking process?

David

--
 == David Nesting WL7RO Fastolfe david@fastolfe.net http://fastolfe.net/ ==

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: dpfister <dpfister@kc.net>
Date: Wed, 25 Aug 1999 08:43:36 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36184-1999.08.25-08.52.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

TAPR AO-16 APRS Special Interest Group digest wrote:
> --
>
> Subject: AO16/LU19/IO26 Renewed TRAKNET Interest
> From: Bob Bruninga <bruninga@nadn.navy.mil>
> Date: Tue, 24 Aug 1999 12:52:01 -0400 (EDT)
> X-Message-Number: 1
>
> With the loss of MIR as the only AX.25 digipeater in space for wilderness
> travelers and off-shore sailors to digipeat their Position/Status, there
> is renewed interest in using the AO-16, LU-19 and IO-26 1200 baud AX.25
> digipeaters for brief UI packet reporting.

This last weekend I attended the ARRL KS State Convention in Salina, KS. The
A0-27 demo was one of the 'neat' activities I attended. How would this compare
to using A0-27?

I am going to Jamaica next month for my daughter's wedding. I was wandering
about taking some kind of APRS with me, this would be about the only way (that I
know of) to get back into the USA network. With the luggage limits in mind, what
would I have to take to get to the network? Since I am a tech+ HF is pretty much
out. A bird in the sky is about all that is left isn't it?

Thanks,
Don

[Signature File]
Name=Don Pfister KA0JLF
HABITAT SkyLab
(High Altitude Basic Investigation Testing And Tracking)
Email=dpfister@kc.net
http://www.kc.net/~dpfister

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

7. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 12:54:47 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36218-1999.08.25-12.06.28--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, Schayk A.H. van wrote:

> Oke i'm willing to give it a try.

>
> What do i need to get started, i've got a tnc2 (tf2.7b firmware), a g3ruh
> modem with scc-card, a ts790e and duoband ant and a 70cm 10 element beam.
>
> will this be enough or do i need to invest in more stuf.
>
> 73 de Andre PE1RDW

I am not familiar with all your equipment. Any station that can receive
the 1200 baud pacsats can do the Gateway function.. This then allows
anyone with the modified TNC to transmit his position.status.

This is a big experiment. THere are no cook book solutions. We all need
to flesh out our AO-16/LU-19/IO-26 capabilities and then see if we can
make it collectively work for a common good...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

8. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 12:57:29 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36219-1999.08.25-12.07.51--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, dpfister wrote:

> This last weekend I attended the ARRL KS State Convention in Salina, KS. The
> A0-27 demo was one of the 'neat' activities I attended. How would this compare
> to using A0-27?

Uplink power/antenna/radio should be the same. But you need the
manchester TNC..
>
> I am going to Jamaica next month for my daughter's wedding. I was wandering
> about taking some kind of APRS with me, this would be about the only way (that I
> know of) to get back into the USA network. With the luggage limits in mind, what
> would I have to take to get to the network? Since I am a tech+ HF is pretty much
> out. A bird in the sky is about all that is left isn't it?

Yes, but it is not usable until we have permanent downlink stations...
but we must begin somewhere...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

9. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Wed, 25 Aug 1999 12:42:40 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36231-1999.08.25-12.52.52--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In order to serve as a gateway on AO-16 you will need a PSK modem.
The uplink requires Manchester FM which the PSK modem performs and
the downlink requires PSK. Also, any TNC2 compatible can be modified
to transmit Manchester FM with a simple $3 modification. The PSK
downlink is an entirely different story.

The downlink from AO-16 is PSK on 436.051 MHz which requires a radio
that has an LSB mode along with a PSK modem that can control the radio
to keep it on frequency as the Doppler shift walks the signal across the
band. Ordinary programs that tune the radio frequency are not sufficient
to maintain a lock on the PSK downlink as the Doppler changes the
frequency. The Doppler shift on the 70cm downlink is roughly 20 KHz,
meaning that the signal is about 10KHz higher in frequency as the bird
approaches and about 10KHz lower in frequency as the bird heads over the
horizon away from you. Tuning is very critical with the PSK downlink. This

is
the tricky part of the process for automating it.

If we had a closed loop system that could detect a lock on the appropriate
frequency where the software could recognize this condition, then it may be
possible to feed that information back to the computer that a lock has
occurred and then let the tracking/ tuning program take over while still
maintaining a check on the lock, we might be able to automate the process.
This is an area that needs the most attention in order to make this a
successful automated process. It is definitely possible.

If somebody wants to send a signal up to the bird I can turn my PSK
modem on and decode the downlink. Everything here is automated
except switching the modem in and out with my other 1200/9600 modem
at the moment.

73's

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Wednesday, August 25, 1999 11:58 AM
Subject: [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

>On Wed, 25 Aug 1999, Schayk A.H. van wrote:
>
>> Oke i'm willing to give it a try.
>>
>> What do i need to get started, i've got a tnc2 (tf2.7b firmware), a g3ruh
>> modem with scc-card, a ts790e and duoband ant and a 70cm 10 element beam.
>>
>> will this be enough or do i need to invest in more stuf.
>>
>> 73 de Andre PE1RDW
>
>I am not familiar with all your equipment. Any station that can receive
>the 1200 baud pacsats can do the Gateway function.. This then allows
>anyone with the modified TNC to transmit his position.status.
>
>This is a big experiment. THere are no cook book solutions. We all need
>to flesh out our AO-16/LU-19/IO-26 capabilities and then see if we can
>make it collectively work for a common good...
>
>bob
>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

10. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Earl Needham <KD5XB@AMSAT.ORG>
Date: Wed, 25 Aug 1999 13:21:08 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36256-1999.08.25-14.50.08--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 12:54 PM 8/25/1999 -0400, Bob Bruninga wrote:
<snip>
>This is a big experiment. THere are no cook book solutions. We all need
>to flesh out our AO-16/LU-19/IO-26 capabilities and then see if we can
>make it collectively work for a common good...

I wonder if we might need another telnet-style feed, similar to APRSSERV, but for the sats...

Earl

Earl Needham, KD5XB mailto:KD5XB@AMSAT.ORG
Clovis, New Mexico DM84jk N34d 25.446 W103d 12.700 (or so)

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

11. [ao16aprs] Re: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 18:11:10 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org
Message-ID: <LYR833-36278-1999.08.25-17.21.55--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, Greg Gross volunteeered to get involved in this
project. He asks:

> 1- Once the data is collected, by what means can it sent to the APRS
> distribution system?

SImply DIGIPEAT over to 144.39. IE, connect XMT side of TNC *without*
manchester encoding to a radio on 144.39. THats it.

> 2- Do you have a ground tracking station system requirement?

I dont know what you mean. Yes we need them. No we dont tell them how...
Weve never done this yet..

> 3- Are there any local hams in the Huntsville, Alabama area that could
> help me with this project?

Lets see. I have forwareded this to the AO16APRS SIG

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

12. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 18:16:17 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36280-1999.08.25-17.26.15--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, Earl Needham wrote:

> I wonder if we might need another telnet-style feed, similar to
> APRSSERV, but for the sats...

At the duty cycle rates of the few APRS mobiles via these satellites, the
exsiting APRServe can handle the bandwidth for years to come.. Thats the
beauty, we already have the worldwide distribution system. All we need
are the receivers. ANd THEY dont even have to have internet access. As
long as they can digipeat to 144.39, then the existing IGates will inject
them.,..

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

13. [ao16aprs] Re: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 18:28:39 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org

Message-ID: <LYR833-36282-1999.08.25-17.38.55--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, Greg Gross wrote:

> Thanks for responding to my inquiry.
> What I am asking in question #2 is simply this: What type of radios,
> antennas, preamps, software etc.. is recommended for the ground station?

Please don't be offeneded by my answer:

"whatever it takes"

We are all new at this. This is an opportunity for experimentation. I
hope it can be done with an Omni and a preamp. No tracking (except for
doppler) required.

An OMNI will not work horizon-to-horizon, but since each ground station is
only a contributing receiver to a bunch of us linked to APRServe, it
doesnt matter if we miss a few packets... As long as we get most packets
when the satellite is close... bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

14. [ao16aprs] Re: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: pete <pho@crocker.com>
Date: Wed, 25 Aug 1999 19:49:56 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36305-1999.08.25-19.00.00--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You mentioned a few mobiles, is anyone using this mode yet?
 Pete N1AGV

Bob Bruninga wrote:

> On Wed, 25 Aug 1999, Greg Gross wrote:
>
> > Thanks for responding to my inquiry.
> > What I am asking in question #2 is simply this: What type of radios,
> > antennas, preamps, software etc.. is recommended for the ground station?
>
> Please don't be offeneded by my answer:
>
> "whatever it takes"
>
> We are all new at this. This is an opportunity for experimentation. I
> hope it can be done with an Omni and a preamp. No tracking (except for
> doppler) required.
>
> An OMNI will not work horizon-to-horizon, but since each ground station is
> only a contributing receiver to a bunch of us linked to APRServe, it
> doesnt matter if we miss a few packets... As long as we get most packets
> when the satellite is close... bob
>
> ---
> You are currently subscribed to ao16aprs as: PHO@CROCKER.COM
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

15. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: pete <pho@crocker.com>
Date: Wed, 25 Aug 1999 19:52:52 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36307-1999.08.25-19.03.08--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Whats the baud rate of the downlink?
Pete N1AGV

Tim Cunningham wrote:

> In order to serve as a gateway on AO-16 you will need a PSK modem.
> The uplink requires Manchester FM which the PSK modem performs and
> the downlink requires PSK. Also, any TNC2 compatible can be modified
> to transmit Manchester FM with a simple $3 modification. The PSK
> downlink is an entirely different story.
>
> The downlink from AO-16 is PSK on 436.051 MHz which requires a radio
> that has an LSB mode along with a PSK modem that can control the radio
> to keep it on frequency as the Doppler shift walks the signal across the
> band. Ordinary programs that tune the radio frequency are not sufficient
> to maintain a lock on the PSK downlink as the Doppler changes the
> frequency. The Doppler shift on the 70cm downlink is roughly 20 KHz,
> meaning that the signal is about 10KHz higher in frequency as the bird
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> horizon away from you. Tuning is very critical with the PSK downlink. This
> is
> the tricky part of the process for automating it.
>
> If we had a closed loop system that could detect a lock on the appropriate
> frequency where the software could recognize this condition, then it may be
> possible to feed that information back to the computer that a lock has
> occurred and then let the tracking/ tuning program take over while still
> maintaining a check on the lock, we might be able to automate the process.
> This is an area that needs the most attention in order to make this a
> successful automated process. It is definitely possible.
>
> If somebody wants to send a signal up to the bird I can turn my PSK
> modem on and decode the downlink. Everything here is automated
> except switching the modem in and out with my other 1200/9600 modem
> at the moment.
>
> 73's
>
> Tim - N8DEU
> Huntsville, Alabama
>
> -----Original Message-----
> From: Bob Bruninga <bruninga@nadn.navy.mil>
> To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
> Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
> Date: Wednesday, August 25, 1999 11:58 AM
> Subject: [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest
>
> >On Wed, 25 Aug 1999, Schayk A.H. van wrote:
> >
> >> Oke i'm willing to give it a try.
> >>
> >> What do i need to get started, i've got a tnc2 (tf2.7b firmware), a g3ruh
> >> modem with scc-card, a ts790e and duoband ant and a 70cm 10 element beam.
> >>
> >> will this be enough or do i need to invest in more stuf.
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> >> 73 de Andre PE1RDW
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> >This is a big experiment. THere are no cook book solutions. We all need
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> >
> >bob
> >
> >
> >
> >---
> >You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
> >To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
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>
> ---
> You are currently subscribed to ao16aprs as: PHO@CROCKER.COM
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org

To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

16. [ao16aprs] Re: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 19:59:00 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36308-1999.08.25-19.08.48--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, pete wrote:

> You mentioned a few mobiles, is anyone using this mode yet?
> Pete N1AGV

NO. Chicken/egg problem. When MIR goes QRT next week, I will use that
radio that drives my MIR web pages and put it up on uplink to AO16
always.. I invite others to do the same...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

17. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 25 Aug 1999 20:00:06 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36310-1999.08.25-19.09.53--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 25 Aug 1999, pete wrote:

> Whats the baud rate of the downlink?

1200 baud PSK. Needs UHF SSB receiver and PSK modem.. and doppler
tracking...

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

18. [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Wed, 25 Aug 1999 20:22:20 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36330-1999.08.25-20.32.15--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The PSK modem performs the Doppler tuning by using the UP/DWN
signals through the microphone connector on most conventional SSB
radios that have this feature. However, the radio must be initially
pretuned
to get a lock on the PSK downlink and then the PSK modem takes
control of the Doppler tuning process using the UP/DWN mic connector
signals. The problem is if the signal is lost for a period of time the
receiver must again be manually tuned to get it back on track.

There may be some other sophisticated PSK modem implementations
that I am not aware that perform a better job of stay on when the signal
drops out momentarily   I am using a PACCOMM PSK-1 TNC that plugs
into a modem disconnect header of a standard TNC-2 compatible.

The signals on AO-16 are weak in comparison to UO-22 or KO-25.
Since most satellites are between 0 and 35 degrees most of the time
on the average, it is possible that some of the omni-directional antennas
may be able to decode the data when the bird is in range. If it passes
over your location at higher angles, then another distance stations could
capture the signal and broadcast it over their local network.

I plan to put my $0 (parts from the junk box) modified TNC back on the
air this weekend in my jeep to see how it works.

73's

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Wednesday, August 25, 1999 7:00 PM
Subject: [ao16aprs] RE: [sarex] AO16/LU19/IO26 Renewed TRAKNET Interest

>On Wed, 25 Aug 1999, pete wrote:
>
>> Whats the baud rate of the downlink?
>
>1200 baud PSK. Needs UHF SSB receiver and PSK modem.. and doppler
>tracking...
>
>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

19. [ao16aprs] AO16 Experiment and Antenna Comments

From: Jon Haskell <kb9cml@att.net>
Date: Wed, 25 Aug 1999 23:31:51 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36369-1999.08.25-23.46.16--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all,

This weekend, myself and fellow satellite affieciendo AB9V , will hopefully start a week of Mobile AO16 APRS with a digi to our local digipeter here in Indianapolis.

Mike and I have worked the 1200 and 9600 baud LEO's over the years. Mike has retained his station, while mine has been in hibernation since I moved three years ago. Frankly, after the crash of AO13 I have had no interest in getting my sat station back up and running. But with this experiment, and the forthcoming launch of P3D, I think I'll get things fired up again and get the satellite tower up before cold weather.

Here is what we are going to try:

I will use an ICOM 28H, that has I think about 50Watt transmitter and start with a 1/4 wave vertical antenna mounted atop the roof rack on the Rover. I will probably use the KAMPlus TNC with a Magellan GPS unit. I am not sure how much power or ERPS is going to be needed to compete with a stationary station with some power and gain antennas.

Mike, will set his station on autopilot, and use WISP, a PSK TNC for downlink, and another TNC for the link to AFSK FM on 144.39. He does not have any stationary satellite antennas, so his az/el yagi array will auto-track the bird.

So look for W8JON mobile in Indiana next week. I usually monitor 7.258 or 14.300 so give me a call.

With respect to antennas for a ground station, Mike and I chatted about this and came up with some thoughts. Firstly, as I remember, over 60% of LEO orbits are 30 degrees or less to your location. (I gave a speech on this some years ago, but have forgotten the exact percentage.) With this in mind, antennas favoring this orbital characteristic would be best.

I used a homebrew J-pole design w/preamp quite successfully. It was not as effective as my az/el yagi system, but the design worked quite well and was easy to build. There was some fading as a result of high orbits and polarization issues. A preamp is almost a necessity to help you through the nulls.

Other designs that have been used in this application, include the Lindenblad and the Quadrifiler antenna design. Both antennas are circular polarized and omni-directional. These in conjunction with a low-noise preamp would work very well. I believe I am correct in saying, because of the circular

polarization, these designs would minimize fades from a linear source better than the vertical.

If memory serves me correctly, I saw a posting suggesting the use of a short, slightly elevated stationary yagi at stations located East to West across the country. At first blush, we are not sure if this is a good situation. Assuming the antennas are pointed North, as the foot print of the satellite moves south of the antenna location, the directivity of the antenna would not favor that area south of the antennas location. Would for instance, a beaconing sailing vessel in the southern area of the Gulf of Mexico be received when the LEO is nearing the equator? The farther north the antenna location, the more pronounced the problem. Of course, the reverse scenario would apply, if the antennas were directed to the south. Perhaps if two yagis were used, one facing north and one south, would solve that issue. Also, is there a polarization issue with the linear signal from the satellite using a non-circular polarized antenna?

The bottom line is that if you are just receiving the downlink from LEO's, we believe a gain antenna is not necessary; and perhaps not as effective as a omni-directional antenna.

Well, I throw this out for discussion. We would appreciate any comments from your experiences with these birds.

Jon W8JON

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

20. [ao16aprs] logfile upload

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Thu, 26 Aug 1999 14:52:55 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36431-1999.08.26-08.06.25--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

Why not use the store and forward capabilities of the birds to forward
positionreports and messages.
The forwarded positions can be reduced to 1 position per station because its
not realtime.
message forwarding can be in the style of email forwarding:
use satfwd as to call and start the message with the call you are forwarding
to.

this may not be very useful in the usa but there are a number of country's
where internet gateways are not allowed or to expensive.

this would mean either a seperate program for the forwarding or an adition
to the existing programs.
from what i understand from the protocoll discription this would mean that
all programs that are going to be used for sat up/down loading need either
hostmode or kiss support

73 de Andre PE1RDW

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

21. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: dpfister <dpfister@kc.net>
Date: Thu, 26 Aug 1999 08:28:23 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36434-1999.08.26-08.37.47--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> > This last weekend I attended the ARRL KS State Convention in Salina, KS. The
> > A0-27 demo was one of the 'neat' activities I attended. How would this compare
> > to using A0-27?
>
> Uplink power/antenna/radio should be the same. But you need the manchester TNC..
>

What is the manchester TNC?

> >
> > I am going to Jamaica next month for my daughter's wedding. I was wandering

> > about taking some kind of APRS with me, this would be about the only way (that I
> > know of) to get back into the USA network. With the luggage limits in mind, what
> > would I have to take to get to the network? Since I am a tech+ HF is pretty much
> > out. A bird in the sky is about all that is left isn't it?
>
> Yes, but it is not usable until we have permanent downlink stations...
> but we must begin somewhere...
>

Ok sounds like a plan to me. I have to start at the beginning. What is the $3
mod and manchester TNC?

Don

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

22. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Thu, 26 Aug 1999 15:31:31 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36436-1999.08.26-08.44.51--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've read something in bob's original proposel about xor'ing the txd with
the txclock i guess this is a manchester tnc
but what about the downlink wat will we need for that?

> -----Oorspronkelijk bericht-----
> Van: dpfister [SMTP:dpfister@kc.net]
> Verzonden: donderdag 26 augustus 1999 15:28
> Aan: TAPR AO-16 APRS Special Interest Group
> Onderwerp: [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest
>
>
> > > This last weekend I attended the ARRL KS State Convention in Salina,
> KS. The
> > > A0-27 demo was one of the 'neat' activities I attended. How would this
> compare
> > > to using A0-27?
> >
> > Uplink power/antenna/radio should be the same. But you need the
> manchester TNC..
> >
>
> What is the manchester TNC?
>
> > >
> > > I am going to Jamaica next month for my daughter's wedding. I was
> wandering
> > > about taking some kind of APRS with me, this would be about the only
> way (that I
> > > know of) to get back into the USA network. With the luggage limits in
> mind, what
> > > would I have to take to get to the network? Since I am a tech+ HF is
> pretty much
> > > out. A bird in the sky is about all that is left isn't it?
> >
> > Yes, but it is not usable until we have permanent downlink stations...
> > but we must begin somewhere...
> >
>
> Ok sounds like a plan to me. I have to start at the beginning. What is the
> $3
> mod and manchester TNC?
>
>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

23. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Thu, 26 Aug 1999 09:16:36 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36441-1999.08.26-09.26.37--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Only gateway stations need to receive the downlink. The downlink
from AO-16 is 1200 baud PSK (Phase Shift Keying). This requires
a special PSK TNC along with a radio that is capable of using the
LSB (Lower Sideband SSB mode) on the downlink.

Manchester FM on the uplink is an easy modification to most any
TNC compatible.

The downlink is a very different story. Mobile stations will not need
a downlink as they will only be transmitting an uplink signal.

73's,

Tim - N8DEU

-----Original Message-----
From: Schayk A.H. van <A.H.Schayk@arcadis.nl>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Thursday, August 26, 1999 8:35 AM
Subject: [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

>I've read something in bob's original proposel about xor'ing the txd with
>the txclock i guess this is a manchester tnc
>but what about the downlink wat will we need for that?
>
>> -----Oorspronkelijk bericht-----
>> Van: dpfister [SMTP:dpfister@kc.net]
>> Verzonden: donderdag 26 augustus 1999 15:28
>> Aan: TAPR AO-16 APRS Special Interest Group
>> Onderwerp: [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest
>>
>>
>> > > This last weekend I attended the ARRL KS State Convention in Salina,
>> KS. The
>> > > A0-27 demo was one of the 'neat' activities I attended. How would
this
>> compare
>> > > to using A0-27?
>> >
>> > Uplink power/antenna/radio should be the same. But you need the
>> manchester TNC..
>> >
>>
>> What is the manchester TNC?
>>
>> > >
>> > > I am going to Jamaica next month for my daughter's wedding. I was
>> wandering
>> > > about taking some kind of APRS with me, this would be about the only
>> way (that I
>> > > know of) to get back into the USA network. With the luggage limits in
>> mind, what
>> > > would I have to take to get to the network? Since I am a tech+ HF is
>> pretty much
>> > > out. A bird in the sky is about all that is left isn't it?
>> >
>> > Yes, but it is not usable until we have permanent downlink stations...
>> > but we must begin somewhere...
>> >
>>
>> Ok sounds like a plan to me. I have to start at the beginning. What is
the
>> $3
>> mod and manchester TNC?
>>
>>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org

To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

24. [ao16aprs] AO16/LU19/IO26 Renewed TRAKNET Interest

From: Rick Largent <73357.3310@compuserve.com>
Date: Thu, 26 Aug 1999 15:46:48 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36492-1999.08.26-14.57.28--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am now running a weak manual PACSAT station. I have been using
AO-16 and LO-19 about 1 to 3 times a week. I have been using AO-16 for
message handling and trying to make contacts on the LO-19 digipeater
(LUSAT-1). At the present time no one in the USA is using the LO-19
digipeater. I have made a few contacts via LUSAT-1, but very few.
If anyone wants to try the LUSAT-1 digipeater for APRS or UI
packets please let me know.
I will active on LO-19 Friday (8/27/99 16:38 UTC).

73's Rick N5ZNL
73357.3310@compuserve.com

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

25. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: jbblack@mindspring.com
Date: Thu, 26 Aug 1999 15:12:01 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36498-1999.08.26-15.22.07--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

What are the BBS and Broadcast callsigns for LO-19 and AO-16? I have
LUSAT-1 for the broadcast callsign on LO-19 and PACSAT for the broadcast
callsign on AO-16. Thanks.

73,
Joel

OM: Joel B. Black, KS4AW XYL: Kristie H. Black, KF4CHN
Eutaw, AL.....EM62bv kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22
----- Original Message -----
From: Rick Largent <73357.3310@compuserve.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Thursday, August 26, 1999 2:46 PM
Subject: [ao16aprs] AO16/LU19/IO26 Renewed TRAKNET Interest

I am now running a weak manual PACSAT station. I have been using
AO-16 and LO-19 about 1 to 3 times a week. I have been using AO-16 for
message handling and trying to make contacts on the LO-19 digipeater
(LUSAT-1). At the present time no one in the USA is using the LO-19
digipeater. I have made a few contacts via LUSAT-1, but very few.
If anyone wants to try the LUSAT-1 digipeater for APRS or UI
packets please let me know.
I will active on LO-19 Friday (8/27/99 16:38 UTC).

73's Rick N5ZNL
73357.3310@compuserve.com

You are currently subscribed to ao16aprs as: ks4aw@amsat.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

26. [ao16aprs] Re: AO16/LU19/IO26 Renewed TRAKNET Interest

From: DHSWANSON@aol.com
Date: Thu, 26 Aug 1999 21:50:26 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>

Message-ID: <LYR833-36556-1999.08.26-21.01.28--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Wait until winter when we get out our steerable antennas. It's too soon to
upset our neighbors. When the snow comes everyone stays indoors and we can do
PacSat and Lusat all night long.

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

27. [ao16aprs] AO-16 downlink captured

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Fri, 27 Aug 1999 08:37:17 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36650-1999.08.27-08.47.51--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Greetings,

See the attached text containing some activity via AO-16
last night. I am attaching it as a text file, because it is impossible
to maintain any formatting in an e-mail message these days with
all the diverse e-mail displays.

73's,

Tim - N8DEU
[Attachment: ao16aprs.txt; text/plain; 6,051 bytes]

28. [ao16aprs] Re: AO-16 downlink captured

From: jbblack@mindspring.com
Date: Fri, 27 Aug 1999 12:19:19 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36690-1999.08.27-12.29.26--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim,

I use WiSP for all of my digital satellite operation. What program do you
use to capture this information. I have noticed that MSPE does not have a
select, copy function. If it does, I have not seen it.

73,
Joel

OM: Joel B. Black, KS4AW   XYL: Kristie H. Black, KF4CHN
Eutaw, AL.............EM62bv   kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22
----- Original Message -----
From: Tim Cunningham <tim_cunningham@mindspring.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Friday, August 27, 1999 8:37 AM
Subject: [ao16aprs] AO-16 downlink captured

> Greetings,
>
> See the attached text containing some activity via AO-16
> last night. I am attaching it as a text file, because it is impossible
> to maintain any formatting in an e-mail message these days with
> all the diverse e-mail displays.
>
>
>
> 73's,
>
> Tim - N8DEU
>
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org

To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

29. [ao16aprs] Re: AO-16 downlink captured

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Fri, 27 Aug 1999 13:08:04 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36695-1999.08.27-13.18.51--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Joel,

I used an old DOS-based version of Procomm which is a real nice
terminal emulator that allows logging the information to disk.

I too use WISP for all my other functions. In this instance, I used WISP
for the antenna control functions and Procomm for the communications
with the TNC.

73's

Tim - N8DEU

-----Original Message-----
From: jbblack@mindspring.com <jbblack@mindspring.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Friday, August 27, 1999 12:20 PM
Subject: [ao16aprs] Re: AO-16 downlink captured

>Tim,
>
>I use WiSP for all of my digital satellite operation. What program do you
>use to capture this information. I have noticed that MSPE does not have a
>select, copy function. If it does, I have not seen it.
>
>73,
>Joel
>--
>OM: Joel B. Black, KS4AW   XYL: Kristie H. Black, KF4CHN
>Eutaw, AL.............EM62bv   kahblack@mindspring.com
>AMSAT member #32589
>jbblack@mindspring.com
>ks4aw@amsat.org
>AO-27, FO-20, FO-29, KO-25, UO-22
>----- Original Message -----
>From: Tim Cunningham <tim_cunningham@mindspring.com>
>To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
>Sent: Friday, August 27, 1999 8:37 AM
>Subject: [ao16aprs] AO-16 downlink captured
>
>
>> Greetings,
>>
>> See the attached text containing some activity via AO-16
>> last night. I am attaching it as a text file, because it is impossible
>> to maintain any formatting in an e-mail message these days with
>> all the diverse e-mail displays.
>>
>>
>>
>> 73's,
>>
>> Tim - N8DEU
>>
>>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

30. [ao16aprs] AO-16 UI digi Communications

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 28 Aug 1999 01:19:45 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org, amsat-bb@amsat.org, sarex@amsat.org
Message-ID: <LYR833-36774-1999.08.28-00.32.02--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Finally, starting to see some UI digipeating on AO-16 and/or LO-19 over the USA! WIth the end of the MIR digipeater, these birds can be used for remote and distant travelers to report their position /status. (though it does take special TNC's. This weekend look for N8DEU, WB2WQM, KB9CML, AB9V, N5ZNL and others...

Here is what Tim, N8DEU sent to us. As you can see, the UI packets look just like the packets from any other APRS digipeater... (I edited it greatly to eliminate all duplicate packets as shown...) See comments at end for suggested operating procedures....

FROM: N8DEU

For those inquisitive minds on what the downlink on AO-16 looks like, the following text shows a sample of AO-16 ASCII data as I captured it... [and edited by Bob]

```
30 dupes: PACSAT-11>PBLIST:PB: Empty.
10 times: PACSAT-1>TIME-1:PHT: uptime is 1803/22:03:49.
                          Time is Fri Aug 27 03:44:38 1999
8 dupes:  PACSAT-12>BBSTAT:Open ABCD:
8 dupes:  PACSAT-11>BSTAT:B: 1662860170
UI:       KB2WQM>FM29PE,PACSAT-1*:
7 dupes:  PACSAT-1>AMSAT:August 1999
          AO-16 Pacsat owned and operated by AMSAT-NA
          AO16 Command Team <WJ9F>
UI:       KB2WQM>FM29PE,PACSAT-1*:hello
6 dupes:  PACSAT-1>LSTAT:I P:0x14CA o:0 l:877 f:1024, d:1 st:5
15 UIs:   N8DEU>EM64PT,PACSAT-1*,WIDE,WIDE:
4  UI's   KB2WQM>FM29PE,PACSAT-1*:
5  UI's   KB2WQM>FM29PE,PACSAT-1*:hello fr Jeff
UI:       N8DEU>EM64PT,PACSAT-1*,WIDE,WIDE:Hi Jeff
UI:       KB2WQM>FM29PE,PACSAT-1*:any aprses out there?
5 dupes:  KB2WQM>FM29PE,PACSAT-1*:kb2wqm@amsat.org
UI:       N8DEU>EM64PT,PACSAT-1*,WIDE,WIDE:7
UI:       KB2WQM>FM29PE,PACSAT-1*:any aprses out there?
UI:       N8DEU>EM64PT,PACSAT-1*,WIDE,WIDE:n8deu@amsat.org
UI:       KB2WQM>FM29PE,PACSAT-1*:hello
          PACSAT-1>TIME-1:PHT: uptime is 1803/22:09:19.
          Time is Fri Aug 27 03:50:08 1999
```

As you can see there is plenty of room for activity on AO-16. It is a very quiet bird with lots of room for activity. For those who want to experiment this weekend on the uplink, I will try to have my PSK modem activated to capture a log file if time permits.

Tim Cunningham - N8DEU
Huntsville, Alabama

Recommendations for APRS via AO-16 and LO-19 over the USA:

Use 145.94 uplink on AO-16 and UNPROTO APRS VIA PACSAT-1,WIDE,WIDE
Use 145.?? uplink on LO-19 and UNPROTO APRS VIA LUSAT-1,WIDE,WIDE

THe WIDE's on the end assure that when any APRS ground station hears the packet, then it will be digipeated terrestrially into the worldwide APRServe infrastructure... so that everyone can see it...

Join the AO16APRS Special Interest Group @TAPR.ORG

Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

31. [ao16aprs] AO-16 digi is off

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Sat, 28 Aug 1999 12:22:07 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36831-1999.08.28-12.34.07--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It appears that the AO-16 digipeat function was turned
off during 2 passes I monitored today. This has put a
big halt on testing my mobile uplink status.

Tim Cunningham - N8DEU
Huntsville, Alabama

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

32. [ao16aprs] Re: AO-16 digi is off

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Sat, 28 Aug 1999 13:06:05 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36835-1999.08.28-13.16.26--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

It seems in all the excitement that I had my digi path set
incorrectly when trying to send a signal to AO-16. This
was an operator error on my part, so AO-16 is most likely
working just fine.

Tim - N8DEU

-----Original Message-----
From: Tim Cunningham <tim_cunningham@mindspring.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Saturday, August 28, 1999 12:25 PM
Subject: [ao16aprs] AO-16 digi is off

>
>It appears that the AO-16 digipeat function was turned
>off during 2 passes I monitored today. This has put a
>big halt on testing my mobile uplink status.
>
>
>
>Tim Cunningham - N8DEU
>Huntsville, Alabama
>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

33. [ao16aprs] Re: AO-16 digi is off

From: DHSWANSON@aol.com
Date: Sat, 28 Aug 1999 14:13:41 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36838-1999.08.28-13.23.42--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tim: When you see d:1 in the string: PACSAT-1>LSTAT:I P:0x14CA o:0 l:877
f:1024, d:1 st:5   it means the digi is ON. d:0 means it is OFF. Dave N8ULD

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org

To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

34. [ao16aprs] Re: AO-16 digi is off

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 28 Aug 1999 14:35:16 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36841-1999.08.28-13.45.25--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 28 Aug 1999, Tim Cunningham wrote:

> It appears that the AO-16 digipeat function was turned
> off during 2 passes I monitored today. This has put a
> big halt on testing my mobile uplink status.

Is the LSTAT reporting that? Or are you "concluding" that? I been
talking to the SYSOP and they said they have no immediate plans to change
anything... Hummh...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

35. [ao16aprs] sat gateway

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Sun, 29 Aug 1999 09:23:24 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-36982-1999.08.29-08.33.04--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good day group. I've been playing around with WinAPRS and I think I'm ready
to try some satellite to local APRS traffic. I will be doing this manually
as I haven't got the auto tune on the d/l working yet. Right now I'm using a
dsp-2232, the manual sez that the sat up/dwn freq control doesn't work. I
also have a PacComm satellite modem set . I will try to get that working for
the auto track of the D/L freq. Let's see if I can digi any traffic off of
the birds.

73 Jeff kb2wqm

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

36. [ao16aprs] KS4AW via AO-16

From: jbblack@mindspring.com
Date: Sun, 29 Aug 1999 11:55:33 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: "Bob Bruninga" <bruninga@nadn.navy.mil>
Message-ID: <LYR833-37034-1999.08.29-12.05.59--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tried to use AO-16 for APRS today. Don't know if I succeeded or not. Had a
63 deg. pass and had to try it. Unfortunately, my WinAPRS is currently
shareware and it shutdown in the middle of the pass, by the time I got all
the parameters re-set, the pass was complete (gives quite a good argument
for registration - HI HI). However, it apparently worked; I could see my
station on www.aprs.net on the Southeastern USA display.

Am still playing with the settings. Am running NOVA for the satellite
tracking and, as I said, Shareware WinAPRS. Best I can tell, I just setup
NOVA to run a pass for AO-16 and let WinAPRS do the rest with the TNC and
PSK modem. I am just here to tune the radio. Very good signal also from
AO-16 up to an S8!

Next pass is only 13 degrees, but will try again. In the meantime, if any
of you have any pointers (besides registering the software) I'm all ears...

73,
Joel

OM: Joel B. Black, KS4AW   XYL: Kristie H. Black, KF4CHN

Eutaw, AL.............EM62bv   kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

37. [ao16aprs] PK232 PSK Transmit

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sun, 29 Aug 1999 15:03:31 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37112-1999.08.29-19.46.37--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I would like to know how to modify the AEA PK232 to digipeat via AO-16 or
LO-19.
Do anyone have the modification instructions especially to utilize any spare
capability in the TNC?

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

38. [ao16aprs] PK232 PSK Modification

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Sun, 29 Aug 1999 17:47:24 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37113-1999.08.29-19.57.35--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I would like to digipeat via AO-16 or LO-19 but I need the PSK modification
for the PK232 TNC.
I would prefer the modification that utilize any spare IC capacity in the
TNC.

Can someone help?

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

39. [ao16aprs] Passes for Michigan

From: James Clay French KD4DLA <kd4dla@corecomm.net>
Date: Mon, 30 Aug 1999 01:02:46 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37162-1999.08.30-00.13.30--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here are the passes that I will try to send a position beacon at.
All dates/times are UTC.
I'll only be using a cushcraft AR-270B mounted at 20ft.
I have received and sent messages to AO-16 before, but that was tuning
the downlink by hand and ear.

SAT	ELEV	START TIME	FINISH TIME
LO-19	85	08-30 16:46:32	17:01:41
AO-16	38	08-30 22:06:20	22:20:45
LO-19	62	08-31 04:05:02	04:19:58

James KD4DLA

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

40. [ao16aprs] any ao16/lo19 traffic being gated?

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Mon, 30 Aug 1999 08:29:25 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37191-1999.08.30-07.39.36--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If Joel sees' his call on aprs.net , someone must have the gateway working, please let us know what program and setup, etc, is working as a satellite terrestrial gateway? I'm beating myself up here with WinAPRS. In the meanwhile I think I will work with the people at PacComm, on the auto tune of the downlink. There is an auto tune section in the PacComm PSK manual. I tried this several years ago with a 726, I will try to set this up with my 847. If this works it would be great as the PacComm PSK modem can easily be added to several different brand's of TNC's. For this whole concept to work I feel auto tune has to be operational, there are two good passes in the middle of the day when vehicle traffic would be present, but no one will be around there base stations to tune the downlink. This will have to be done on autopilot. Keep you posted.

73 Jeff kb2wqm

Tried to use AO-16 for APRS today. Don't know if I succeeded or not. Had a 63 deg. pass and had to try it. Unfortunately, my WinAPRS is currently shareware and it shutdown in the middle of the pass, by the time I got all the parameters re-set, the pass was complete (gives quite a good argument for registration - HI HI). However, it apparently worked; I could see my station on ww.aprs.net on the Southeastern USA display. Am still playing with the settings. Am running NOVA for the satellite tracking and, as I said, Shareware WinAPRS. Best I can tell, I just setup NOVA to run a pass for AO-16 and let WinAPRS do the rest with the TNC and PSK modem. I am just here to tune the radio. Very good signal also from AO-16 up to an S8! Next pass is only 13 degrees, but will try again. In the meantime, if any of you have any pointers (besides registering the software) I'm all ears...

> 73,
> Joel
> ---
> OM: Joel B. Black, KS4AW XYL: Kristie H. Black, KF4CHN
> Eutaw, AL.....EM62bv kahblack@mindspring.com
> AMSAT member #32589
> jbblack@mindspring.com
> ks4aw@amsat.org
> AO-27, FO-20, FO-29, KO-25, UO-22

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

41. [ao16aprs] Re: any ao16/lo19 traffic being gated?

From: jbblack@mindspring.com
Date: Mon, 30 Aug 1999 07:52:43 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37195-1999.08.30-08.03.02--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff,

I hope you can get the folks at Paccomm to help with the auto-tuning feature of the PSK-1. However, I must say that it doesn't look good for the home team if what Tim has stated in his posting to the reflector are correct.

How did it turn out previously with your 726?

Am looking forward to your reply.

73,
Joel

OM: Joel B. Black, KS4AW XYL: Kristie H. Black, KF4CHN
Eutaw, AL.....EM62bv kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org

AO-27, FO-20, FO-29, KO-25, UO-22
----- Original Message -----
From: Jeff Griffin <kb2wqm@cyberenet.net>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Monday, August 30, 1999 7:29 AM
Subject: [ao16aprs] any ao16/lo19 traffic being gated?

> If Joel sees' his call on aprs.net , someone must have the gateway
working,
> please let us know what program and setup, etc, is working as a satellite
> terrestrial gateway? I'm beating myself up here with WinAPRS. In the
> meanwhile I think I will work with the people at PacComm, on the auto tune
> of the downlink. There is an auto tune section in the PacComm PSK manual.
I
> tried this several years ago with a 726, I will try to set this up with my
> 847. If this works it would be great as the PacComm PSK modem can easily
> be added to several different brand's of TNC's. For this whole concept to
> work I feel auto tune has to be operational, there are two good passes in
> the middle of the day when vehicle traffic would be present, but no one
> will be around there base stations to tune the downlink. This will have to
> be done on autopilot. Keep you posted.
>
> 73 Jeff kb2wqm

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

42. [ao16aprs] AO-16/APRS planning

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 30 Aug 1999 12:07:59 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: Ronald Graham <rongraham@magnet.com.au>, ozaprs@marconi.mpce.mq.edu.au,
        ao16aprs@tapr.org, TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-37231-1999.08.30-11.37.01--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

AO-16/APRS summary.

Once you get a PSK modem for AO-16, AND have it connected to your
mic-up/dn buttons then the modem will track the doppler throughout the
pass. BUT you still cannot do un attended oepratiosn unless you have a
station program that can pre-tune the radio to the upper edge start of the
doppler.

So there are three "levels" of working AO-16

1) Manual doppler. Tuning a SSB rig over 16 KHZ to stay within 200 Hz
    A LOT of fun...

2) Doppler tracking. THis is built into most PSK modems to do the
doppler tracking automatically once it locks on via the up/dn buttons on
your rig..

3) Unattended operation. The HOLY GRAIL! This is what we need inorder
ot have the dreamed of worldwide automatic use of AO-16 and LO 19 for
tracking mobiles worldwide...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

43. [ao16aprs] OOPS!

From: James Clay French KD4DLA <kd4dla@corecomm.net>
Date: Mon, 30 Aug 1999 17:36:21 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37271-1999.08.30-16.46.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I goofed on the pass times for AO-16 and LO-19.
Didn't redo the schedule after loading the new keps into WISP.
I will relook at the times and see when I'll be able to do this.

Sorry about that.

James KD4DLA

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

44. [ao16aprs] APRS mobile test on AO16

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 30 Aug 1999 19:36:27 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>,
TAPR APRS Special Interest Group <aprssig@lists.tapr.org>
Message-ID: <LYR833-37288-1999.08.30-18.46.37--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Today I activated an AO-16 uplink of test packets during all East Coast
passes from Maryland. It is 20 watts into a car roof whip vertical
on 145.94 and has a clear horizon in all directions.

Two tests need to be performed on these 20 second packets:

1) Count successful packets during all passes. Note success rate for
East, west and overhead passes. This will benchmark how a vertical will
work to AO16. I suspect overhead passes will do best.

2) Since FO-20 shares this freq, I need a few people to listen for me
there to make sure the 20w ERP will not QRM the transponder too much...

3) We need someone else to put up a similar test signal from a
Turnstyle so we can get similar statistics for horizontal polarization.
I think horizontal will be better for East and West passes.

Once we get these statistics, then I will reduce power to see what the
minimum ERP requirement is. Packet path is APRS VIA PACSAT-1,WIDE,WIDE.

Feedback welcome.

de WB4APR, Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

45. [ao16aprs] Re: AO-16/APRS planning

From: Builderick@aol.com
Date: Mon, 30 Aug 1999 20:18:08 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37294-1999.08.30-19.29.33--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 08/30/1999 10:27:40 AM Mountain Daylight Time,
bruninga@nadn.navy.mil writes:

<<
3) Unattended operation. The HOLY GRAIL! This is what we need inorder
ot have the dreamed of worldwide automatic use of AO-16 and LO 19 for
tracking mobiles worldwide...

bob
>>

Hello Bob and the group.
What I think we need is a pks modem downlink and manchester up link in a
single package.
I do have a aea 232 psk SSB modem and can check up links in my coverage area.
I use wisp and set the frequences exact in the software. I can recieve digi
packets fine and catch most of the pass using wisp to do the dopler shift.

Downlink is very expensive. We'll need Single Side Band recievers in the 70
cm .
$1000 for an all mode
$ directional antennas and rotors $700.
Psk modem $ 400.

Computer $ 700.
 Wisp $40.00 (TO a good cause)
So downlink alone is $2800. for special equiptment . For us only at 1200 baud.

Now I know you don't need manchester ecoding to us the aprs back-bone.
As I understand we just need to uplink on 144.39 mhz.FM using regular paket .
Proving we can see a earth link we will make in into the thing.

However I keep thinking of people in the field using this as a
saftey/emergency
way to get traffic out of the booneies.

To do this we just need a 2 meter fm rig and a arrow antenna combination.

To point the antenna it would help If we could hear the bird? this is the
Field problem.
Know of any dual band recievers 2 meter up and 70 cm SSB Down? Or we just
send blindly at aproximately the right pass time , which we could perdict
ahead of time and <print> and carry the times.

SO I guess this simple mod (which ain''t to simple for me a KPC3/9612
customer.)
Or buy a aea2232 modem for $700.
The 1200 baud pacsat. AO-16 and LO-19 Are underused, In my oppioun now.

KB0VBZ
Rick.
P.S> Bob saw you diging off of Mir while you were in the Grand Canyon. Using
the Kenwood ht and APRS

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

46. [ao16aprs] Re: AO-16/APRS planning

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 30 Aug 1999 22:04:32 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37310-1999.08.30-21.14.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 30 Aug 1999 Builderick@aol.com wrote:

> I do have a aea 232 psk SSB modem and can check up links in my area.

GREAT! A volunteer.

> I use wisp and set the frequences exact in the software. I can recieve
> digi   packets fine and catch most of the pass using wisp to do the
> dopler shift.

? Does it do full tuning, or just close enough to then let the TNC/PSK
Modem do the fine adjustment with up/dn clicks to the radio?

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

47. [ao16aprs] Re: AO-16/APRS planning

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 30 Aug 1999 22:13:07 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37311-1999.08.30-21.23.11--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How do we get the AO-16 packets over to the 144.39 network or to the
internet APRServe? Several methods. None trivial.

1) At my old fashiond work QTH, we have 9600 baud old dumb-terminal
network which can establish a TCPIP connection to APRServe. ALl I do is
use dumb terminal to establish connection and then connect output of my
TNC/PSK1 modem directly to this serial port. Most of you cannot do this
since you use more modern ISP's.

2) Let the TNC digipeat. This can work if you are using an external PSK

modem connected to your TNC modem header. The packet will be received via
PSK and the TNC will digipeat it. But if you jumper the modem disconnect
header so that the TNC can still transmit AFSK instead of manchester, then
just connect the original TNC output to any 2m radio on 144.39 and let it
go out to the terrestrial network.

I doubt this will work with all-in-one modems unless you can select PSK on
downlink and separately select AFSK on the send side independently????
Anyone know ????

3) Software! SOmeone write a program to take monitored packets and then
turn them around and send them out your terrestrial TNC and 144.39 radio.
The ONLY thing required is to insert the "}" at the start of each packet.
THis is the APRS 3rd party protocol. Trivial to do, but takes a program
to do it. I wrote such a thing for DOS, but everyone is using WISP...

4) ANy other ideas???

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

48. [ao16aprs] Re: AO-16/APRS planning

From: Builderick@aol.com
Date: Mon, 30 Aug 1999 22:33:03 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37315-1999.08.30-21.43.40--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 08/30/1999 8:05:24 PM Mountain Daylight Time,
bruninga@nadn.navy.mil writes:

<< ? Does it do full tuning, or just close enough to then let the TNC/PSK
 Modem do the fine adjustment with up/dn clicks to the radio?

 bob >>

I use wisp to do all the tuning.
Granted it is not as efficent as hand and eye tuning.
And no I don't use the up/down key click system.
I have seen the drawing for the key cllick system.
But did not pursue it.
It would seem to me if I can download e-mail automaticly then .
It would work for aprs. digi.
KB0VBZ
Rick

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

49. [ao16aprs] Re: AO-16/APRS planning

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Tue, 31 Aug 1999 09:21:44 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37374-1999.08.31-02.35.54--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi bob

I have a 4) for you

take a linux computer and hook up a psk tnc to one com port and a 1k2 tnc to
another
put them both in kiss mode and attach them as you would any other tnc for
"normal" operation
using the program rxecho you can sendout all packets that come in on the sat
and have a wide as next digi on the aprs channel

i have tried this with a 1k2 tnc and a 9k6 tnc and it works great

73 de Andre PE1RDW

> -----Oorspronkelijk bericht-----
> Van: Bob Bruninga [SMTP:bruninga@nadn.navy.mil]
> Verzonden: dinsdag 31 augustus 1999 4:13
> Aan: TAPR AO-16 APRS Special Interest Group

> Onderwerp: [ao16aprs] Re: AO-16/APRS planning
>
> How do we get the AO-16 packets over to the 144.39 network or to the
> internet APRServe? Several methods. None trivial.
>
> 1) At my old fashiond work QTH, we have 9600 baud old dumb-terminal
> network which can establish a TCPIP connection to APRServe. ALl I do is
> use dumb terminal to establish connection and then connect output of my
> TNC/PSK1 modem directly to this serial port. Most of you cannot do this
> since you use more modern ISP's.
>
> 2) Let the TNC digipeat. This can work if you are using an external PSK
> modem connected to your TNC modem header. The packet will be received via
> PSK and the TNC will digipeat it. But if you jumper the modem disconnect
> header so that the TNC can still transmit AFSK instead of manchester, then
> just connect the original TNC output to any 2m radio on 144.39 and let it
> go out to the terrestrial network.
>
> I doubt this will work with all-in-one modems unless you can select PSK on
> downlink and separately select AFSK on the send side independently????
> Anyone know ????
>
> 3) Software! SOmeone write a program to take monitored packets and then
> turn them around and send them out your terrestrial TNC and 144.39 radio.
> The ONLY thing required is to insert the "}" at the start of each packet.
> THis is the APRS 3rd party protocol. Trivial to do, but takes a program
> to do it. I wrote such a thing for DOS, but everyone is using WISP...
>
> 4) ANy other ideas???
>
>
>
> ---
> You are currently subscribed to ao16aprs as: A.H.Schayk@arcadis.nl
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

50. [ao16aprs] packet qrm on fo-20/fo-29

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Tue, 31 Aug 1999 06:35:20 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37380-1999.08.31-05.45.18--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning group. Several user's mentioned packet noise on FO-20 on our
morning net we have on FO-20.   looking at the frequencies for AO-16/LO-19,
145.900 would be better. Most people use 145.920/145.950 on the FO bird's
for an U/L. If we can, we might want to move the U/L to 145.900, this would
solve the problem. Also several noticed 1200 baud packet on AO-27. I haven't
heard this, but just passing it along.

73 Jeff kb2wqm

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51. [ao16aprs] Re: AO-16/APRS planning

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 31 Aug 1999 10:29:56 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37411-1999.08.31-09.40.09--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 30 Aug 1999 Builderick@aol.com wrote:

> I use wisp to do all the tuning.
> Granted it is not as efficent as hand and eye tuning.
> And no I don't use the up/down key click system.
> I have seen the drawing for the key cllick system.
> But did not pursue it.
> It would seem to me if I can download e-mail automaticly then .
> It would work for aprs. digi.

Absolutely. THis is great news. I gather you are in the COlorado area?
I guess we only get one mutual pass a day, so look for my 20 second
beacons. If I am actually monitoring a pass, Ill probably bump that up to
every 10 seconds for more data...

bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

52. [ao16aprs] LO-19 (fwd)

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 31 Aug 1999 16:42:42 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37452-1999.08.31-15.53.25--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bill has some questions about the 2232. I am not familiair with it. I
dont know if he is on the AO16 sig, so copy responses to him please.
Thanks, Bob

---------- Forwarded message ----------
From: William Erhardt <erhardt@mt.net>

 Howdy I picked up your signal from LO-19 just a bit ago and wanted to say
 howdy from Bill K7MT in Helena, Montana. Question - I have a AEA DSP 2232
 and I copy ok but do yu know how to set it up to transmit to the digial
 bird. I am brand new at this and not sure what I am doing. I want to
 gateway some of the APRS positions off the sats using the DSP-2232. Or
 some you know who knows the DSP-2232 that can help - Thanks from Montana

Bill K7MT

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

53. [ao16aprs] Re: AO-16/APRS planning

From: Clifford Buttschardt <cbuttsch@slonet.org>
Date: Tue, 31 Aug 1999 18:01:23 -0700 (PDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37484-1999.08.31-20.11.30--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So tell us, what is he going to do with a FSK modem on AO16? Cliff K7RR

On Mon, 30 Aug 1999, Bob Bruninga wrote:

> On Mon, 30 Aug 1999 Builderick@aol.com wrote:
>
> > I do have a aea 232 psk SSB modem and can check up links in my area.
>
> GREAT! A volunteer.
>
> > I use wisp and set the frequences exact in the software. I can recieve
> > digi   packets fine and catch most of the pass using wisp to do the
> > dopler shift.
>
> ? Does it do full tuning, or just close enough to then let the TNC/PSK
> Modem do the fine adjustment with up/dn clicks to the radio?
>
> bob
>
>
>
> ---
> You are currently subscribed to ao16aprs as: CBUTTSCH@SLONET.ORG
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

54. [ao16aprs] Re: AO-16/APRS planning

From: DHSWANSON@aol.com
Date: Tue, 31 Aug 1999 21:56:25 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37497-1999.08.31-21.06.47--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I work ao-16 every night during the winter months using a Yaesu FT-736R and an L.L.Grace DSP-12 tnc (the best). I use the Kansas City Tracker and Tuner to drive the Yaesu antenna rotor which tracks the sats with a pair of Cushcraft multi-element crossed yagis with the pre-amps mounted at the antennas. One computer does the tracking and another one runs the communication program PB-PG. All coax is 9913. The tracking program is usually RealTrak but InstantTrack will also work in a pinch. For digi work Procomm Plus is fine. These are all DOS programs. I've never had any luck with the Windows-based programs. The Kansas City Tuner does a decent job of following the doppler for unattended passes but there are such orbital fluctuations and other phenomena that only half the pass may get copied. For really good copy I hand tune with the mike click and get some really good downloads. After hundreds of passes your ear will pick up the subtle frequency changes and anticipate upcoming copy problems. One problem is in the harmonics. There are several signals that sound good but only one has the info you need. This just takes practice.
However, some nights nothing seems to work and no other hams are having success either. I have found the polarity switch to be a big help because the PACSAT signal can go from right-nand to left-hand polarity in an instant. I have had many digi QSOs on Pacsat and Lusat and Italsat but the computers must have their time set accurately and up-to-date keplarian elements are a must. I also believe that downloading the signal on SSB is a lot easier than uploading it on FM to PacSat. I use a vertical antenna for the 0 to 5 degree part of a pass and it works well but is useless for an overhead pass. That is the only antenna I have working now and I am monitoring PacSat for any APRS digis.   Dave. N8ULD Columbus, Ohio

---
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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

55. [ao16aprs] Re: packet qrm on fo-20/fo-29

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 31 Aug 1999 22:46:21 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37506-1999.08.31-21.56.26--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 31 Aug 1999, Jeff Griffin wrote:

> Good morning group. Several user's mentioned packet noise on FO-20 on our
> morning net we have on FO-20.   looking at the frequencies for AO-16/LO-19,
> 145.900 would be better. Most people use 145.920/145.950 on the FO bird's
> for an U/L. If we can, we might want to move the U/L to 145.900, this would
> solve the problem. Also several noticed 1200 baud packet on AO-27. I haven't
> heard this, but just passing it along.

Keep an ear on FO20. I dont think 145.90 is an option, since it is shared by about 6 or moer satellites. 145.94 is used by no other (other than FO-20 which of course listens to half the band...

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56. [ao16aprs] PACSAT Live QSO's?

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 31 Aug 1999 23:03:45 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org, sarex@amsat.org, aprs@tapr.org
Message-ID: <LYR833-37508-1999.08.31-22.14.52--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm trying to ponder where we are, where we have been, and where we are going with small satellites. Please note that this is only from what I see in the USA, it does not necessarily apply anywhere else). There are a few facts:

* Since 94 the internet has exploded. Everyone (USA) has unlimited access
* Activity on the PACSATS over the USA is way, way down.
* Activity on AO27 is up and growing!
* Digipeating via MIR with UI frames was growing very well
* Digipeating UI frames is starting to gather interest on AO16 and LO19

So here is the thought. Are we seeing a trend away from store-n-forward message systems (The internet does this well!) and seeing a trend back to LIVE amateur radio satellite contacts just because they are fun?

For two years I have been pushing this idea of UI digipeating via AO16 and LO19, but I have been pushing for automatic un attended gateways to the rest of the APRS infrastructure. Now that I am playing a few days on these birds, and seeing others doing the same, maybe there is enough interest to just have fun LIVE station-to-station...?

If so, then demand for PSK modems would remain high, and SOMONE should write a SOUND-CARD PSK modem just like ROger did for PSK31! ANd then everyone with a PC and an all mode radio could QSO via these virtually abandoned birds... without having to buy a $700 PSK TNC...

Bob, WB4APR

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September 1999

Original source file: aprssat.9909
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9909

1. [ao16aprs] Re: [sarex] PACSAT Live QSO's?

From: "James R. Gorr" <n3toy@qsl.net>
Date: Tue, 31 Aug 1999 22:12:50 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org, ao16aprs@tapr.org, sarex@AMSAT.Org, aprs@tapr.org
Message-ID: <LYR833-37532-1999.09.01-00.21.50--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

---<snip>---

If so, then demand for PSK modems would remain high, and SOMONE should
write a SOUND-CARD PSK modem just like ROger did for PSK31!

---<snip>---

...And make it run under Linux?

Jamie

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] Re: [sarex] PACSAT Live QSO's?

From: Tim Walker <tim@netutw.grenoble.hp.com>
Date: Wed, 01 Sep 1999 09:35:17 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: Bob Bruninga <bruninga@nadn.navy.mil>, amsat-bb@AMSAT.Org,
ao16aprs@tapr.org, sarex@AMSAT.Org, aprs@tapr.org
Message-ID: <LYR833-37554-1999.09.01-02.45.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

James R. Gorr wrote:
>
> ---<snip>---
>
> If so, then demand for PSK modems would remain high, and SOMONE should
> write a SOUND-CARD PSK modem just like ROger did for PSK31!
>
> ---<snip>---
>
> ...And make it run under Linux?
>

Don't you mean - and then port it from linux to one of the other
single-user operating systems if there is enough demand? (hi x 3)

> Jamie
> ----
> Via the sarex mailing list at AMSAT.ORG courtesy of AMSAT-NA.
> To unsubscribe, send "unsubscribe sarex" to Majordomo@amsat.org

--

Tim Walker Hewlett-Packard
Tel: (+33) 04.76.14.12.33 OSD-Grenoble
Fax: (+33) 04.76.14.14.88 38053 Grenoble Cedex 9 FRANCE

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

3. [ao16aprs] Re: [amsat-bb] PACSAT Live QSO's?

From: kg5za@juno.com
Date: Wed, 01 Sep 1999 08:26:54 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org, ao16aprs@tapr.org, sarex@AMSAT.Org, aprs@tapr.org
Message-ID: <LYR833-37574-1999.09.01-07.37.50--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Good Morning Bob;

        You have posed son interesting questions. Living here in West
Texas and having been a ham for some twenty years now, I've see nearly
the same thing happen with
ground based packet. I was one of the first to operate packet in the
area. For a few years it went great guns, then it got to the point that
there was no-one on the other end just the computer mail box. We are now
seeing a
rebirth in packet here. Due in part to APRS, but also a return to
keyboard to keyboard use.
        What I'm really saying here, I guess is that the
personal interaction was the missing factor. I think, that as human
beings, this interaction is necessary to our well being, and when it is
lacking intrust falls off rapidly. People start looking for it in other
places.
        If I had to make a choice between store and forward operation and
working one of the "Easy Sats" person to person, the "Easy Sat" would win
hands down.
Also with the influx of less skilled Amateurs and the other demands on
every-ones time this day and age, An easy to use system is what will
eventually bear the bulk of users. More Easy Sats please! Voice and
packet!

                        "73"   John,   KG5ZA

In The Twinkling of A Star,
  All That Glitters is not Gold!

_____
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4. [ao16aprs] qrm fr 145.940

From: kb2wqm@juno.com
Date: Wed, 1 Sep 1999 08:54:49 edt
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37577-1999.09.01-09.12.27--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning. The moving of the uplink to 145.900 wouldn't cause any
problems as most pacsat stations are running 50 plus watts FM into az-el
computer controlled hi gain yagi's. I don't think a short 1200 packet 50
watt omni signal will interfere much with that ! But it is annoying on
the foo bird's, as every packet burst get's transponded by the satellite
. Also Looking at the orbit's of the birds it seem's to me that there
also isn't a problem because the orbit's aren't concurrent. Anyway I'm
using 145.900 for the uplink.

73 Jeff kb2wqm

_____
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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

5. [ao16aprs] PSK modem's

From: kb2wqm@juno.com
Date: Wed, 1 Sep 1999 09:58:27 edt
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37578-1999.09.01-09.12.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Discovered that my PacComm PSK modem is broke. I had a lightning hit last
summer and didn't notice that it took a hit I guess. I haven't tried

using it since then. By the way a PacComm PSK modem, that can be added
to a variety of tnc's cost's $200 not $700 dollars. I also have a AEA
dsp-2232 I will be using for the u/l -d/l. This will be manual tune,
it's what I've been using all along. I bought the 2232 for $200. If you
look around there are deals. I will be monitoring some of the ao16, and
lo19 passes, If anyone want's to set up a sked to unproto messages , let
me know at kb2wqm@amsat.org. I'm in FM29pe.

 73 Jeff kb2wqm

_____
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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] Re: qrm fr 145.940

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 1 Sep 1999 10:06:22 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37579-1999.09.01-09.16.31--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think you are right. I will QSY to 145.90 uplnik
That way, I can use it for LUSAT and PACSAT... ALl I have to do each pass
is change the UNPROTO...

bob

On Wed, 1 Sep 1999 kb2wqm@juno.com wrote:

>
> Good morning. The moving of the uplink to 145.900 wouldn't cause any
> problems as most pacsat stations are running 50 plus watts FM into az-el
> computer controlled hi gain yagi's. I don't think a short 1200 packet 50
> watt omni signal will interfere much with that ! But it is annoying on
> the foo bird's, as every packet burst get's transponded by the satellite
> . Also Looking at the orbit's of the birds it seem's to me that there
> also isn't a problem because the orbit's aren't concurrent. Anyway I'm
> using 145.900 for the uplink.
>
> 73 Jeff kb2wqm
>
>
>
> _____
> Get the Internet just the way you want it.
> Free software, free e-mail, and free Internet access for a month!
> Try Juno Web: http://dl.www.juno.com/dynoget/tagj.
>
> ---
> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

7. [ao16aprs] Re: [amsat-bb] PACSAT Live QSO's?

From: Peter J Mann <pmann@juno.com>
Date: Wed, 1 Sep 1999 10:48:09 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37594-1999.09.01-11.09.14--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning John,

  When I got into packet for traffic handling the first thing that came
to
mind is "so you leave it in someone BB mailbox or post it on a BB.."
WILL anyone pick it
up and pass it or will it die? I agree with you, person to person for
packet is the best way..
73 Pete
KF5RD
_____
Get the Internet just the way you want it.
Free software, free e-mail, and free Internet access for a month!
Try Juno Web: http://dl.www.juno.com/dynoget/tagj.

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8. [ao16aprs] [sarex] PACSAT Live QSO's?

From: A Thomas <70374.440@compuserve.com>
Date: Wed, 1 Sep 1999 12:59:34 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: "[unknown]" <amsat-bb@AMSAT.Org>, "[unknown]" <aprs@tapr.org>,
        "[unknown]" <sarex@AMSAT.Org>, "[unknown]" <ao16aprs@tapr.org>
Message-ID: <LYR833-37604-1999.09.01-12.10.37--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i think the idea of a soundcard based psk modem would be good.

Of course, AO-27 would support standard 1200 packe digi, wouldn't it?Or
even FM sstv. May not be popular though! Perhaps there could be an
experimental day designated?

andy G0SFJ

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

9. [ao16aprs] QSL W9JIU

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 1 Sep 1999 18:45:39 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37637-1999.09.01-17.56.33--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I saw W9JIU in Tuscon on LO19. Actually, I didnt "see" him, cause I was
busy tuning, and tracking, and listening and thinking. Only later did I
notice on my screen that the last packet heard was APRS from W9JIU!

My 20 watts ERP to an OMNI is NOT showing great success via AO16/LO19.
Even though my downlink is still very marginal due to kludges and
newbeeism, I can at least "hear" sometimes when it appears that my packet
was digipeated even if I dont "print" it. But it certainly is no where
near 100%... Im gonna keep it vertical for a few more days while I
debug my downlink. Then may try horizontal.

Remember, the objective here is to determine the power and antenna and
Beacon rate such that one can guarantee at least ONE packet report per
pass. (At least for starters, anyway).

bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

10. [ao16aprs] Re: [sarex] PACSAT Live QSO's?

From: Jeff Gibson <GIBSONJW@worldnet.att.net>
Date: Wed, 01 Sep 1999 20:28:40 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org, ao16aprs@tapr.org, amsat-bb@AMSAT.Org
Message-ID: <LYR833-37657-1999.09.01-21.39.37--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob Bruninga wrote:
>
> * Activity on AO27 is up and growing!
> * Digipeating via MIR with UI frames was growing very well
> * Digipeating UI frames is starting to gather interest on AO16 and LO19
>
> So here is the thought. Are we seeing a trend away from store-n-forward
> message systems (The internet does this well!) and seeing a trend back to
> LIVE amateur radio satellite contacts just because they are fun?

Bob, I couldn't agree with you more!

I *still* miss the days when AO-21 was alive and well. The signal was
so good that all I needed was the rubber duck antenna to receive it.
And almost every pass on the weekends was very congested. A very
popular bird at the time.

I feel that we need more of these easy-to-work FM or SSB satellites to
revive the interest in this area.

73's to all.

--
Jeff Gibson, KB0DSH

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

11. [ao16aprs] APRS via AO-16

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 1 Sep 1999 23:34:14 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org, TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-37664-1999.09.01-22.44.42--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tonight were my first 2 good mobile APRS satellite test passes.

AO16 was south to north along the east coast rising to a maximum
elevation of 20 degrees.   LO19 was south to north almosts overhead.
No one else was on either bird the entire pass.

UPLINK: 20 W ERP FM to a vertical over a simulated car roof
         1 packet for digipeat every 10 seconds

AO16: I started late, but once I got locked on, I held lock solid all
the way to the horizon. Of 38 packets 10 were digipeated. But here is
the pattern after I got locked on (*'s show Xmitted, X's show digi'ed)

```
AO16: ..........**********************************************
                X X                             XXXXXXXX

LO19: ******************************************************
                                          |  XXX  XXX

      South                center         QSY      north
```

I was on 145.90 for AO16 and the first 3/4 of LO19. Since I was
having zero success with LO19, I QSYed the uplink to 145.88 and
began having success.

So you see, this seems to support the expected poor performance of a
vertical in the center of a pass. Not just because it is overhead
(this was a 20 deg pass), but because of the perfect cross polarization
of the vertical with the Pacsat antennas at this geometry. Also it shows
the poor performance of a vertical down at the horizon, but better up a
few degrees.. ALso on the overhead pass (LO19) where you would expect the
early and late portions to be vertical, I did not see much improvement.

One possibilty for the poor southern performance is the orientation of the
pacsat antenna on the top of the bird and/or QRM from the southern USA
which disappears when the birds get north of here..

de WB4APR, Bob

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12. [ao16aprs] AO16/LO19 pass data

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 2 Sep 1999 21:23:49 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37797-1999.09.02-20.34.36--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For those of you testing on AO16/LO19, I find a 10 second BText gives
a great consistent set of pass data to characterize your uplink. Since we
are trying to understand the ability of AO16 and LO19 as mobile
satellites, I would ask that you also use some type of Mobile antenna
design for your UPLINK tests. THen we can all compare notes. Here are my
first three passes of good data and I think the graphical display below is
quite useful for seeing what is going on.

The 1st row is elevation angle, 2nd row is satellite and transmissions
(every 10 seconds) and the 3rd row is frequency and digipeated packets.
(dot's are when I was not locked on to the downlink, meaning no data).

TEST: 19" groundplane vertical, 20 watts.

```
EL: 0            10             20             10              0  S->N
16: ..........**************************************************
90:            X X                            XXXXXXXX

EL: 0         20       40       60       40        20          0  S->N
19: ************************************************************
90:                                        |  XXX  XXX
                                         QSY 88

El: 0             10            25             10              0
19: ************************************************************  N->S
88:                       X XX       XXX    X  X    XXX   XX
```

I hope to get many more passes to validate the apparent trend, then I will
reduce deviation (to see if that is the problem) and then I will try a
turnstyle horizontal antenna... and other variables.

With no one else on the bird, now is a perfect time for us to measure and
get good statistics on the mobile to satellite geometry using a live
spacecraft!

bob

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13. [ao16aprs] Re: [amsat-bb] APRS via AO-16

From: Stephan Greene <sgreene@patriot.net>
Date: Thu, 2 Sep 1999 22:41:15 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>,
amsat-bb@AMSAT.Org,
TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-37801-1999.09.02-21.52.16--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 1 Sep 1999, Bob Bruninga wrote:

> One possibilty for the poor southern performance is the orientation of the
> pacsat antenna on the top of the bird and/or QRM from the southern USA
> which disappears when the birds get north of here..

Bob, if I recall correctly (hopefully someone with 1st-hand knowledge will
correct me if I am mistaken) the magnet orientation is reveresed between
AO-16 and LU-19, so the receiver antenna orientation is different for the
two satellites.

South American and Carribean area QRM on the uplink is, unfortunately, a
real possibility.

73 Steve KA1LM

```
-------------------------------------------------------------------------
Stephan A. Greene                          sgreene@patriot.net
Senior Systems Engineer, VA Linux Systems  sgreene@valinux.com
Mid-Atlantic Region                        703-980-3475
Amateur  KA1LM@amsat.org  Grid FM18hx      38 59'83.33"N 77 23'6.15"W
-------------------------------------------------------------------------


---
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```

14. [ao16aprs] Re: [amsat-bb] APRS via AO-16

From: Jim White <jim@coloradosatellite.com>
Date: Thu, 02 Sep 1999 22:34:20 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37824-1999.09.03-00.11.29--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

```
LU-19 is oriented 'upside down' relative to AO-16 and the other two
Microsats.  However, while there is some distortion (relative to a dipole)
of the receive antenna pattern because the body of the satellite is large
compared to the thickness of the whip, the receivers are sensitive enough
to make that up.  We studied the patterns and uplink BER extensively for
the first three or four years of life.  All indications pointed to
interference as the almost exclusive cause of uplink problems (assuming all
transmit factors were optimized).
At one point I did some very low power uplinks tests on AO-16 when we were
working on improved software and there was no other uplinking going on.  An
EIRP of about 5 watts produced almost 100 % uplink success in the absence
of interference.  However it should be noted that many sources on the
ground produce an equivalent EIRP, and most of those are not intended for
or directed to the satellite at all.  Most of the interference sources are
south of the U.S. boarder or non-satellite U.S. amateur activity.  Two guys
talking on HTs will compete for the receiver capture with a mobile packet
station attempting to digi through the bird.
An additionally an often overlooked factor that reduces uplink success is
over deviation.  When I observe local terrestrial packet activity with a
service monitor the average deviation is about 7 KHz.  If that carries over
to the case of satellite uplinks (as I suspect is the case) it is right on
the margins of what the receiver filters will pass and would require
careful adjusting the uplink for Doppler.  The ideal deviation (again
determined after extensive testing) is 3.2 KHz.  And deviations as low at
2.5 will result in almost as good a success rate, and do not require
Doppler correction.

So I would suggest the key factors that effect uplink success are (in order
of commonality):
- Deviation to wide
- TXD to short
- Interference
- Incorrect frequency
- Asymmetrical modulation

jw
wd0e@amsat.org
jim@coloradosatellite.com


>> One possibilty for the poor southern performance is the orientation of the
>> pacsat antenna on the top of the bird and/or QRM from the southern USA
>> which disappears when the birds get north of here..
>
>Bob, if I recall correctly (hopefully someone with 1st-hand knowledge will
>correct me if I am mistaken) the magnet orientation is reveresed between
>AO-16 and LU-19, so the receiver antenna orientation is different for the
>two satellites.
>
>South American and Carribean area QRM on the uplink is, unfortunately, a
>real possibility.


---
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```

15. [ao16aprs] Re: AO16/LO19 pass data

From: DHSWANSON@aol.com
Date: Fri, 3 Sep 1999 06:58:17 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37834-1999.09.03-06.08.39--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob: Here is a copy of PacSat tonight. I heard you over Elyria, Ohio. Dave
N8ULD:

PROCOMM PLUS Ready!

cmd:
cmd:MH
24:53|PACSAT-11
cmd:
[9/2/99 23:34:48]PACSAT-11>W4SM:
OK W4SM

[9/2/99 23:35:04]PACSAT-12>BBSTAT:
Open ABCD:
[9/2/99 23:35:04]PACSAT-11>BSTAT:
B: 1664576317

[9/2/99 23:35:05]PACSAT-1>STATUS:
ÝAÏ7□°»□
%3
cmd:MH
 0:00|PACSAT-1   0:00|PACSAT-11   0:00|PACSAT-12
cmd:
[9/2/99 23:37:23]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/2/99 23:37:51]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/2/99 23:38:03]PACSAT-11>PBLIST:
PB: Empty.

[9/2/99 23:38:04]PACSAT-1>STATUS:
BÏ7□°»□
%3
[9/2/99 23:38:42]PACSAT-11>BSTAT:
B: 1664576317

[9/2/99 23:38:58]PACSAT-11>PBLIST:
PB: Empty.

[9/2/99 23:39:00]WB4APR-8>BEACON,PACSAT-1*,WIDE,WIDE:
[FM19SX] 20w Vert omni QSL wb4apr@amsat.org
[9/2/99 23:39:04]PACSAT-1>STATUS:
ÍBÏ7□°»□
%3
[9/2/99 23:39:09]PACSAT-11>PBLIST:
PB: Empty.

[9/2/99 23:40:04]PACSAT-11>PBLIST:
PB: Empty.

[9/2/99 23:40:05]PACSAT-1>AMSAT:
September 1999
AO-16 Pacsat owned and operated by AMSAT-NA
AO16 Command Team <WJ9F>

[9/2/99 23:43:35]PACSAT-11>PBLIST:
PB: Empty.

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16. [ao16aprs] Re: PK232 PSK Transmit

From: "Henry Moseley" <hmose@sover.net>
Date: Fri, 3 Sep 1999 09:07:33 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37848-1999.09.03-08.18.28--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Did Pat McGrath ever get the info requested on how to make the $3.00
modification to the PK232? Has anyone first hand info or comments on the
specifics of this modification?? Has anyone actually done this??

Thanks, Henry KA1RRT@amsat.org

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
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17. [ao16aprs] Re: PK232 PSK Transmit

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Fri, 3 Sep 1999 08:46:39 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37853-1999.09.03-08.57.24--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am working on it as time permits and will release any results when
it is finalized. I have one circuit working, but I am trying to minimize
the parts required. There are two ways to approach the problem:

1. Minimal parts using existing TNC circuitry.

2. Plug-in board for the modem disconnect header.

Is there anybody else working on this?

If you see my beacon from the Gulf sometime this weekend, you
will know that I will have option #1 completed.

I am using a TNC-2 compatible unit. My first attempt failed with the
simple XOR of the TXC (1200 hz) and TXD. A quick peek on a
scope revealed some of the trouble as well as listening to the
output which was the first clue. Synchronization of the data and clock
is the key before applying the signals to the XOR circuit. Since my
time is extremely limited, I work on this in about 10 minute time slots
each day on the weekend.

73's,

Tim - N8DEU

-----Original Message-----
From: Henry Moseley <hmose@sover.net>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Friday, September 03, 1999 8:09 AM
Subject: [ao16aprs] Re: PK232 PSK Transmit

>Did Pat McGrath ever get the info requested on how to make the $3.00
>modification to the PK232? Has anyone first hand info or comments on the
>specifics of this modification?? Has anyone actually done this??
>
>Thanks, Henry KA1RRT@amsat.org
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

18. [ao16aprs] Re: PK232 PSK Transmit

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 3 Sep 1999 11:22:02 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37862-1999.09.03-10.32.20--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

Concerning the Manchester mod, thats why I always specify a true TAPR-2
clone. In the PacComm Tiny-2, there is a D flip-flop that appears to be
synchronizing the data to the 1200 HZ clock already,..U13B and there is
even a spare XOR gate U12A (Or at least I cant find it anywhere on
the schematic)...

ONCE I get my real DSP-12 UPLINK fully reliable and quantified, then I
will get around to making the mod and doing some testing. But for now, I
am concentrating on the overall systems analysis to determine if these
satellites are going to be great for ARPS as I think...

P.S. Just saw 15 packets from KB2WQM on the last pass. Way to go Jeff!

bob

 On Fri, 3 Sep
1999, Tim Cunningham wrote:

>
> I am working on it as time permits and will release any results when
> it is finalized. I have one circuit working, but I am trying to minimize
> the parts required. There are two ways to approach the problem:
>
> 1. Minimal parts using existing TNC circuitry.
>
> 2. Plug-in board for the modem disconnect header.
>
>
> Is there anybody else working on this?
>
> If you see my beacon from the Gulf sometime this weekend, you
> will know that I will have option #1 completed.
>
> I am using a TNC-2 compatible unit. My first attempt failed with the
> simple XOR of the TXC (1200 hz) and TXD. A quick peek on a
> scope revealed some of the trouble as well as listening to the
> output which was the first clue. Synchronization of the data and clock
> is the key before applying the signals to the XOR circuit. Since my
> time is extremely limited, I work on this in about 10 minute time slots
> each day on the weekend.
>
>
>
> 73's,
>
> Tim - N8DEU
>
>
>
>
> -----Original Message-----
> From: Henry Moseley <hmose@sover.net>
> To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
> Date: Friday, September 03, 1999 8:09 AM
> Subject: [ao16aprs] Re: PK232 PSK Transmit
>
>
> >Did Pat McGrath ever get the info requested on how to make the $3.00
> >modification to the PK232? Has anyone first hand info or comments on the
> >specifics of this modification?? Has anyone actually done this??
> >
> >Thanks, Henry KA1RRT@amsat.org
> >
> >
> >---
> >You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
> >To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
> >
>
>
> ---
> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

19. [ao16aprs] Re: PK232 PSK Transmit

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Fri, 3 Sep 1999 11:15:01 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37868-1999.09.03-11.25.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The TNC-2 clone I am using implements a J-K Flip-Flop with
the J-K inputs tied together on the output of that SIO chip to
apparently sync data.

Tim - N8DEU

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Friday, September 03, 1999 10:22 AM
Subject: [ao16aprs] Re: PK232 PSK Transmit

>Concerning the Manchester mod, thats why I always specify a true TAPR-2
>clone. In the PacComm Tiny-2, there is a D flip-flop that appears to be
>synchronizing the data to the 1200 HZ clock already,..U13B and there is
>even a spare XOR gate U12A (Or at least I cant find it anywhere on
>the schematic)...
>
>ONCE I get my real DSP-12 UPLINK fully reliable and quantified, then I
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>am concentrating on the overall systems analysis to determine if these
>satellites are going to be great for ARPS as I think...
>
>P.S. Just saw 15 packets from KB2WQM on the last pass. Way to go Jeff!
>
>bob
>
> On Fri, 3 Sep
>1999, Tim Cunningham wrote:
>
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>> I am working on it as time permits and will release any results when
>> it is finalized. I have one circuit working, but I am trying to minimize
>> the parts required. There are two ways to approach the problem:
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>> 1. Minimal parts using existing TNC circuitry.
>>
>> 2. Plug-in board for the modem disconnect header.
>>
>>
>> Is there anybody else working on this?
>>
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>> will know that I will have option #1 completed.
>>
>> I am using a TNC-2 compatible unit. My first attempt failed with the
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>> scope revealed some of the trouble as well as listening to the
>> output which was the first clue. Synchronization of the data and clock
>> is the key before applying the signals to the XOR circuit. Since my
>> time is extremely limited, I work on this in about 10 minute time slots
>> each day on the weekend.
>>
>>
>>
>> 73's,
>>
>> Tim - N8DEU
>>

>>
>>
>>
>> -----Original Message-----
>> From: Henry Moseley <hmose@sover.net>
>> To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
>> Date: Friday, September 03, 1999 8:09 AM
>> Subject: [ao16aprs] Re: PK232 PSK Transmit
>>
>>
>> >Did Pat McGrath ever get the info requested on how to make the $3.00
>> >modification to the PK232? Has anyone first hand info or comments on the
>> >specifics of this modification?? Has anyone actually done this??
>> >
>> >Thanks, Henry KA1RRT@amsat.org
>> >
>> >
>> >---
>> >You are currently subscribed to ao16aprs as:
tim_cunningham@mindspring.com
>> >To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>> >
>>
>>
>> ---
>> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
>> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>>
>>
>
>APRSdos REPLY/COMMENT:
>
>Reply mail addr: wb4apr@amsat.org
>US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
>See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
>See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
>See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

20. [ao16aprs] Re: PK232 PSK Transmit

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Fri, 3 Sep 1999 13:52:22 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37903-1999.09.03-16.03.16--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The answer is no.
Would any of the PK-232 modification Kits at TAPR provide the modification?

----- Original Message -----
From: Henry Moseley <hmose@sover.net>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Friday, September 03, 1999 6:07 AM
Subject: [ao16aprs] Re: PK232 PSK Transmit

> Did Pat McGrath ever get the info requested on how to make the $3.00
> modification to the PK232? Has anyone first hand info or comments on the
> specifics of this modification?? Has anyone actually done this??
>
> Thanks, Henry KA1RRT@amsat.org
>
>
> ---
> You are currently subscribed to ao16aprs as: PATRICIO@CYBERG8T.COM
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

21. [ao16aprs] Horizontal test

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 3 Sep 1999 22:05:09 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37951-1999.09.03-21.16.09--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I just built a horizontal turnstyle for my simulated car roof. ERP
remains 20W. Please monitor my 10 sec beacons and let me know what you
see. I dont have an all mode at home, so I cannot monitor until Tuesday!
ARGH... SInce I cannot QSY, I will be on PACSAT-1 only...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

22. [ao16aprs] Re: [sarex] AO-16 UI digi Communications

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 3 Sep 1999 22:40:26 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org
Message-ID: <LYR833-37954-1999.09.03-21.51.18--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 3 Sep 1999, Jesse Royall wrote:

> That $3 Mod I have herd about.... is it possible to put a switch in line
> .. or do you have to have a dedicated TNC for something like that.

Yes, $1.50 of the $3 is for a SPST switch...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

23. [ao16aprs] APRS SatGates

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 3 Sep 1999 23:14:12 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37957-1999.09.03-22.24.54--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have updated the following list of methods to use for linking APRS
Satellite position/status/message packets into the worldwide APRServe
system. I have added the simplest and most obvious as Number 1!

1) Just run regular Mac/WinAPRS/+SA and use your satellite TNC instead of
regular TNC. All of these programs allow you to dial up your ISP and
automatically link all the packets your station hears into the system!

2) Let the TNC digipeat the packet back to 144.39. THis assumes you are
using a PSK-1 with a TAPR-2 TNC and you add a jumper on the MODEM header
so that the AFSK modem is still enabled too and connect it to a radio on
144.39. I doubt this will work with all-in-one modems unless you can
select PSK on downlink and separately select AFSK on the send side
independently???? Anyone know ????

3) If your work QTH (campus) still has "dumb terminal servers" on their
LAN, just "connect to APRServe" and then physically connect the TNC to the
port. Every packet it hears on the downlink goes into APRServe...

4) Software! Someone write a program to take monitored packets and then
turn them around and send them out your terrestrial TNC and 144.39 radio.
The ONLY thing required is to insert the "}" at the start of each packet.
THis is the APRS 3rd party protocol. Trivial to do, but takes a program
to do it. I wrote such a thing for DOS, but everyone is using WISP...

5) ANy other ideas???

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24. [ao16aprs] Re: [amsat-bb] [sarex] PACSAT Live QSO's?

From: "KF4FDJ (Mike in Ft. Myers, FL)" <seven77@gate.net>
Date: Sat, 04 Sep 1999 07:05:41 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: Bob Bruninga <bruninga@nadn.navy.mil>, "[unknown]" <amsat-bb@AMSAT.Org>,
"[unknown]" <aprs@tapr.org>, "[unknown]" <sarex@AMSAT.Org>,
"[unknown]" <ao16aprs@tapr.org>
Message-ID: <LYR833-37985-1999.09.04-06.17.03--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Andy,

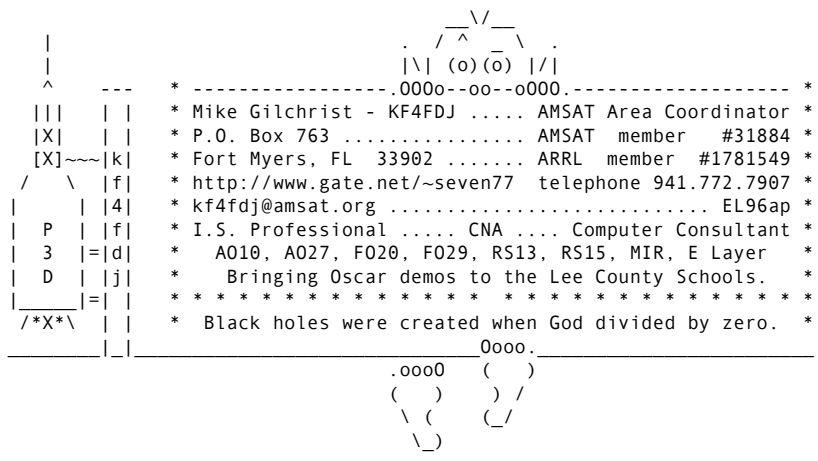
A Thomas wrote:
>
> i think the idea of a soundcard based psk modem would be good.
>
> Of course, AO-27 would support standard 1200 packe digi, wouldn't it?Or
> even FM sstv. May not be popular though! Perhaps there could be an
> experimental day designated?

A handful of operators relay APRS packets through AO27 now, on an
experimental basis. There is a device which wires in series with your
microphone cable which will send an APRS packet when you let off the
ptt. Check out the TAPR site for details. In my opinion, this is no
more annoying than some of the "roger beeps" you hear on some European
satellite stations.

I too am eager to see a software implemented PSK modem. Lets see what
the fellows at AMSAT France have up their sleeves.

73, Mike in Fort Myers, FL

--


* Mike Gilchrist - KF4FDJ ..... AMSAT Area Coordinator *
* P.O. Box 763 ..... AMSAT member #31884 *
* Fort Myers, FL 33902 ..... ARRL member #1781549 *
* http://www.gate.net/~seven77 telephone 941.772.7907 *
* kf4fdj@amsat.org ..... EL96ap *
* I.S. Professional ..... CNA .... Computer Consultant *
* AO10, AO27, FO20, FO29, RS13, RS15, MIR, E Layer *
* Bringing Oscar demos to the Lee County Schools. *
* Black holes were created when God divided by zero. *

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25. [ao16aprs] autopilot and igate successful

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Sat, 4 Sep 1999 08:59:17 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-37991-1999.09.04-08.09.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Last night late passes on ao-16 and lo-19 successfully sent unproto messages
to/from n5znl and k7mt. Saw several unprotos from wb4apr and w9jiu. I also
worked the entire pass on auto pilot using WiSP with my DSP-2232! This
didn't work for the next higher elevation pass though, for some reason. On
the last pass of LO-19 I think I was also successful Igating messages to the
internet, using WinAPRS. Did anyone see anything on the internet last night,

we need igate monitors. Too much gong on here to watch the igate stream! I
will be testing again this evening, if not mid day today also. I have a
couple of CLP file's with the igated messages , if anyone wants to see them
send me a request. kb2wqm@amsat.org and I will mail them to you. Also
running a test mobile station in yard, 50 watts into an omni using a PacComm
sat modem set txing every 10 seconds. Didn't see it yet, modem might not be
in manchester, even though it's supposed to be.

73 Jeff kb2wqm

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

26. [ao16aprs] Re: [amsat-bb] [sarex] PACSAT Live QSO's?

From: Margaret Leber <maggie@voicenet.com>
Date: Sat, 04 Sep 1999 11:34:19 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: Bob Bruninga <bruninga@nadn.navy.mil>, amsat-bb@AMSAT.Org,
        "[unknown]" <ao16aprs@tapr.org>
Message-ID: <LYR833-38000-1999.09.04-10.43.59--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

"KF4FDJ (Mike in Ft. Myers, FL)" wrote:

> A handful of operators relay APRS packets through AO27 now, on an
> experimental basis.
>... In my opinion, this is no more annoying than some of the "roger > beeps" you hear

It's also a much more effective use of the time on the bird. Considering
you're unlikely to get much more info (callsign, gridsquare, signal
report) though a typical AO-27 weekend pileup pass by voice...and a few
packet bursts could swap data with a *lot* more stations! :-)

--
......____
...../__KB3DXS_) Margaret Stephanie Leber <maggie@voicenet.com> /
..../(, /| /| http://www.voicenet.com/~maggie/maggie.html /
.../   / | / | _   _   _   ` _"The art of progress consists/
../) / |/ |_(_(_(_/_(_/__(__(/_ of preserving order amid /
./ (_/   '   .-/ .-/   change and change amid order."/
/_________________(_/ (_/___________________A.N.Whitehead___/

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

27. [ao16aprs] SAT AM tests

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 4 Sep 1999 12:30:49 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org
Message-ID: <LYR833-38004-1999.09.04-11.41.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Saturday Morning AO16/LO19 tests:

Jeff, I see you very well. I see your 1w, 25w and 50W signalls and got
lots of -9's from your mobile too. I assume it is on a 10 sec period,
whereas your base station is as fast as you can type.?

What uplink are you on. For our tests and if we are both live, we might
want to chhose separate freqs so we are not QRMing each other...

Questions: 1) Are you on 90?
            2) What is your success rate? I see your successes, but I
               have no clue how many you are sending
            3) What is your uplink antenna? Is your 1W an ERP or just
               XMTR power? It wouild be best if you only used ERP, so
               it can be compared to other stations without having to
               talk about the antenna for every test..

I saw 9 from your mobile, 18 from the 10W and 2 from 50w or more. I may
not have recorded everyone...

I was transmitting all 4 passes so far this morning on my new Horizontal.
I thought it would go much better. It appears to be much worse! I even

lowered deviation. Still I am getting lousy performance...
 ARGH...

Bob

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28. [ao16aprs] Re: SAT AM tests

From: DHSWANSON@aol.com
Date: Sat, 4 Sep 1999 13:32:43 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: PacSat@aol.com
Message-ID: <LYR833-38019-1999.09.04-12.43.07--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob: I logged 3 of your beacons as PacSat passed over Wisconsin, Illinois,
and Tennessee during the 1:00 PM pass today.

PROCOMM PLUS Ready!

cmd:DA
DAYtime is 09/04/99 12:53:24
cmd:Q MH
37:10|PACSAT-11   37:14|PACSAT-1   37:19|PACSAT-12
cmd:DA
DAYtime is 09/04/99 12:54:14
cmd:DA
DAYtime is 09/04/99 12:54:45
cmd:MH
37:11|PACSAT-11   37:14|PACSAT-1   37:19|PACSAT-12
cmd:
[9/4/99 12:57:38]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/4/99 12:59:02]PACSAT-11>QST-1:
 ³¬¹Ï7ûÏ7ªU³¬AL990902   ¿Í7ºÏ7¹Ï7Éù¢
T
P□G
[9/4/99 12:59:03]PACSAT-11>QST-1:
 ´¬üÏ7□bÐ7ªU´¬BL990902   àdÆÍ7üÏ7üÏ7Ê□K
NP<n
[9/4/99 12:59:05]PACSAT-1>TIME-1:
PHT: uptime is 1812/11:17:10. Time is Sat Sep 04 16:58:47 1999

[9/4/99 12:59:07]PACSAT-11>BSTAT:
B: 1664887828

[9/4/99 13:00:38]PACSAT-11>PBLIST:
PB: N5ZNL

[9/4/99 13:00:42]PACSAT-12>BBSTAT:
Open ABCD:
[9/4/99 13:01:04]PACSAT-1>TIME-1:
PHT: uptime is 1812/11:19:10. Time is Sat Sep 04 17:00:47 1999

[9/4/99 13:01:04]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:01:07]PACSAT-1>TLM:
?PÑ7^h~j□ln)□
□³ç
ÝA.ß□Ö¨³|t□tv$uxl¼\ Á!□"z#0$%:&'()
*+f,-s.j/¨0¥1¤2374¥5¤6¢7§8□9Ø:
[9/4/99 13:01:08]WB4APR-8>BEACON,PACSAT-1*,WIDE,W2IDE:
[FM19SX] 20w Vert omni QSL wb4apr@amsat.org
[9/4/99 13:01:09]PACSAT-12>BBSTAT:
Open ABCD:
[9/4/99 13:01:09]PACSAT-11>BSTAT:
B: 1664895285

[9/4/99 13:02:28]WB4APR-8>BEACON,PACSAT-1*,WIDE,W2IDE:
[FM19SX] 20w Vert omni QSL wb4apr@amsat.org
[9/4/99 13:02:41]PACSAT-12>BBSTAT:
Open ABCD:
[9/4/99 13:02:41]PACSAT-11>BSTAT:

```
B: 1664895285

[9/4/99 13:02:44]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:02:54]PACSAT-1>STATUS:
¨PÑ7□□°»□
%;
[9/4/99 13:02:55]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:03:02]N5ZNL>EM42WK,PACSAT-1*:
CQ

[9/4/99 13:03:04]PACSAT-1>TIME-1:
PHT: uptime is 1812/11:21:10.  Time is Sat Sep 04 17:02:47 1999

[9/4/99 13:03:06]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:03:07]PACSAT-1>TLM:
·PÑ7c□p}p□pn0¡
¢²ç
Ý>/ß
Ö¡¯swwss$mpp¼[ Â!□"y#+$$%=&'()/*+h,-□.p/¦0¦1¤2364¦5□6¨7§8□9Ù:
[9/4/99 13:03:08]PACSAT-1>AMSAT:
September 1999
AO-16 Pacsat owned and operated by AMSAT-NA
AO16 Command Team <WJ9F>


[9/4/99 13:03:08]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/4/99 13:03:13]PACSAT-12>BBSTAT:
Open ABCD:
[9/4/99 13:03:13]N5ZNL>EM42WK,PACSAT-1*:
CQ

[9/4/99 13:03:14]PACSAT-11>BSTAT:
B: 1664895285

[9/4/99 13:03:17]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:03:20]N5ZNL>EM42WK,PACSAT-1*:
CQ de Rick

[9/4/99 13:03:21]PACSAT-1>STATUS:
ÆPÑ7□□°»□
%;
[9/4/99 13:03:34]PACSAT-1>TIME-1:
PHT: uptime is 1812/11:21:40.  Time is Sat Sep 04 17:03:17 1999

[9/4/99 13:03:37]PACSAT-1>TLM:
ÕPÑ7f□pwr□pm,□
¤·ç
Üÿ+Þ□Ñ□²□s□vv$qxx·\ Â!□"z#0$ %B&'()*+□,-k.i/¤0¤1¥2384¤5¤6§7¦8□9Ø:
[9/4/99 13:03:37]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/4/99 13:03:39]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:03:50]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:03:54]PACSAT-1>AMSAT:
September 1999
AO-16 Pacsat owned and operated by AMSAT-NA
AO16 Command Team <WJ9F>


[9/4/99 13:03:58]WB4APR-8>BEACON,PACSAT-1*,WIDE,W2IDE:
[FM19SX] 20w Vert omni QSL wb4apr@amsat.org
[9/4/99 13:04:01]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:04:04]PACSAT-1>TIME-1:
```

```
PHT: uptime is 1812/11:22:10.  Time is Sat Sep 04 17:03:47 1999

[9/4/99 13:08:16]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:08:37]PACSAT-1>TLM:
RÑ7g□d|p□rnK□
¢±ç
Ü<.â□Ó□°xirnn$kcj¶\ ¾!□"~#,$$%8&'(3)*+_,-
.l/¤0¥1¤2364¤5¤6¬7¥8□9Ö:
[9/4/99 13:08:37]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/4/99 13:08:38]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:09:00]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:09:04]PACSAT-1>TIME-1:
PHT: uptime is 1812/11:27:10.  Time is Sat Sep 04 17:08:47 1999

[9/4/99 13:09:07]PACSAT-1>TLM:
RÑ7e□p|r□smK□
£´ç
à--â□Ï□¬ig□ci$shg¶[ Ä!¬"
#2$%%?&]'(*)*+J,-□.□/¦0¥1¤2314¥5¢6-7¦8□9Ø:
[9/4/99 13:09:08]PACSAT-1>AMSAT:
September 1999
AO-16 Pacsat owned and operated by AMSAT-NA
AO16 Command Team <WJ9F>


[9/4/99 13:09:08]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

[9/4/99 13:09:11]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:09:22]PACSAT-1>STATUS:
.RÑ7□□°Ý□
%;
[9/4/99 13:09:22]PACSAT-11>PBLIST:
PB: Empty.

[9/4/99 13:09:25]PACSAT-12>BBSTAT:
Open ABCD:
[9/4/99 13:09:25]PACSAT-11>BSTAT:
B: 1664895285

[9/4/99 13:09:37]PACSAT-1>TLM:
=RÑ7`Czs□rl]□
£²ç
Ú0-ä□Õ□¬kjnqr$hgg·] ¿!□"~#9$&%6&
'()b*+D,-□.z/¤0¤1¤23F4¥5¤6¬7¦8□9Ø:
[9/4/99 13:09:37]PACSAT-1>LSTAT:
I P:0x14CA o:0 l:877 f:1024, d:1 st:5

cmd:MH
 0:00|PACSAT-1      0:01|PACSAT-11     0:01|PACSAT-12
cmd:DA
DAYtime is 09/04/99  13:10:37
cmd:
cmd:

---
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```

29. [ao16aprs] AO16/LO19 APRS pass data

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 4 Sep 1999 13:58:22 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: Robert Bruninga <bruninga@arctic.nadn.navy.mil>
Message-ID: <LYR833-38024-1999.09.04-13.09.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The following plots show the central 10 minutes of each AO16/19 pass.
I am mostly trying to get the mobile UPLINK figured out. (My Downlink

tracks doppler fine once the pass starts. ALl i must do is the antenna).

TEST-1: 19" groundplane vertical, 20 w ERP. Week of 1 Sept...

```
AO EL D FR SOUTH end of pass         CENTER of pass          NORTH end
-- -- - -- ------------------------------------------------------------
16 20 E 90 >         X X                                  XXXXXXXX
19 60 O 90 >                                          |  XXX  XXX
19 25 E 88 <      XX   XXX    X  X    XXX        XX X
19 10 E 90 <     w   w     w     w    w   w    w     w  w    w  w
16 50 E 90 >       ?  ?    ??        X XX       X XX X       X
19 60 O 88 >          zz z     zXz  z  z       zX   ?z z?   zz ??X  X ?
19 10 W 88 >            X     ?     ??       X?XXX?
```

TEST-2: Horizontal Turnstyle. 20W ERP. Saturday 4 Sept

```
16 25 E 90 < w      ww 11      11 w   w.............................
19 60 O 88 <      9 9  X 55w    wwwXX  ww   9 9   wwwwwww999wwww  999
16 33 W 90 <  JJ         zz      7   Xz7z zXXzzz XXX zzzz7  X.........
19 17 W 88 < J       7JJJ          7       77
```

Notes: . = not ready on downlink
       X = heard myself (at constant 10 sec rate)
       z = N5ZNL
       w = WB2WQM at 10w
       1 = WB2WQM at 1w
       9 = WB2WQM-9 mobile vertical antenna
       7 = K7MT-10
       J = W9JIU

These plots area always shown with south to the left regardless of the direction of travel (at night it goes S>N and in day it goes N>S). THis is so we can see if Central American QRM has any effect. By listening to my own 10 sec uplink on an HT, I can just tick them off on a piece of paper and also note any other packets I see. Makes record keeping easy.

My Uplink is 30 feet from my Downlink, so i am not keyboarding with you others, but I am with you in spirit! I see your comments..

With no one else on the bird, now is a perfect time for us to measure and get good statistics on the mobile to satellite uplink geometry using a live spacecraft!

Everyone please indicate uplink power in ERP, not XMTR power so we can tell what is going on... Lets also each take one of the UPLINK channels so we can see any differences too. Ill take 88 on LO19 and 90 on AO16. Anyone else operating on 10 sec interval and unattended should also use 90 on 16 so as not to QRM FO20/29.

CONCLUSION: I am very surprised at my poor (almost 0) success with the Horizontal turnstyle. For tonights passes, I will leave it on Horizontal before giving up. SUnday, I will go back to vertical. TOnight I am depending on you for data. I cannot see it at home...

I assume each of you shown above is also here on this AO16 SIG?

 bob, WB4APR

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

30. [ao16aprs] Re: AO16/LO19 APRS pass data

From: DHSWANSON@aol.com
Date: Sat, 4 Sep 1999 14:09:30 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38026-1999.09.04-13.20.23--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob: Here is today's Lusat copy. I note 2 APRS beacons, but not yours.

```
cmd:MH
 0:00|PACSAT-1      0:01|PACSAT-11     0:01|PACSAT-12
cmd:DA
DAYtime is 09/04/99  13:10:37
cmd:
cmd:MH
 0:34|PACSAT-1      0:34|PACSAT-11     0:34|PACSAT-12
cmd:DA
DAYtime is 09/04/99  13:44:45
cmd:
cmd:
cmd:
cmd:
cmd:DA
DAYtime is 09/04/99  13:45:27
cmd:
[9/4/99 13:46:19]K7MT-10>APRS,LUSAT-1*,WIDE,WIDE:
Bill in Helena, Montana DN46ap testing APRS with PacSat today erhardt@mt.net .

[9/4/99 13:47:17]LUSAT-1>STATUS:
yYÑ7□□°w
</
[9/4/99 13:47:17]LUSAT-1>LSTAT:
I P:0x3000 o:9 l:12644 f:12644, d:1 st:2

[9/4/99 13:47:53]LUSAT-1>TIME-1:
PHT: uptime is 400/04:06:11.  Time is Sat Sep 04 17:40:49 1999

[9/4/99 13:47:56]LUSAT-1>TLM:
¡YÑ7d□qljn□j□
£¿è
Ù33Þ□Ü¨©pleff$@_dË] ¬!£"|#$%&&'"()*+,-O.</¨0¨1§23P4¤5¤6©7¦8£9¬:ª;<ÿ
[9/4/99 13:47:56]LUSAT-1>STATUS:
¡YÑ7□□°w
</
[9/4/99 13:47:56]LUSAT-1>LSTAT:
I P:0x3000 o:9 l:12644 f:12644, d:1 st:2

[9/4/99 13:48:08]W9JIU>APW228,LUSAT-1*,WIDE,WIDE:
=3222.10N/11058.33W-PHG7240/WinAPRS 2.2.8..DM42mi...bpatt@att.net
-AZPIMTUCSON  -228-<520>

[9/4/99 13:48:13]W9JIU>APW228,LUSAT-1*,WIDE,WIDE:
_09041748c135s000g006t091r000p000P000h..b.....wUII

[9/4/99 13:48:19]K7MT-10>APRS,LUSAT-1*,WIDE,WIDE:
Bill in Helena, Montana DN46ap testing APRS with PacSat today erhardt@mt.net .

[9/4/99 13:48:57]LUSAT-1>AMARG:

January 20 - 1999.

9 years of LUSAT in the space !

On Board Computer reload in progress.
Digipeater active.

Norberto - LU8DYF.


[9/4/99 13:48:57]LUSAT-1>STATUS:
ÝYÑ7□□°w
</
[9/4/99 13:48:57]LUSAT-1>LSTAT:
I P:0x3000 o:9 l:12644 f:12644, d:1 st:2

[9/4/99 13:49:13]LUSAT-1>TIME-1:
PHT: uptime is 400/04:07:31.  Time is Sat Sep 04 17:42:09 1999

cmd:MH
 0:04|LUSAT-1       0:43|PACSAT-1      0:44|PACSAT-11     0:44|PACSAT-12

cmd:DA
DAYtime is 09/04/99  13:53:33
cmd
```

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

31. [ao16aprs] design for psk modem

From: root <root@pe1rdw.demon.nl>
Date: Sat, 4 Sep 1999 21:13:03 +0200 (CEST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: sarex@amsat.org
Message-ID: <LYR833-38027-1999.09.04-13.21.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

I'm about to recive a design of a 1200 baud psk modem for use on ao-16
This design wil cost about $20 of parts and not $400 like the paccom psk-1
Like the psk-1 it does dopler tuning via the mic up/down keys
It even has a tuning indicator so you can see where the downlink is in the
audio band.

When i get the change to digitice it i will put it on my aprs page
http://www.pe1rdw.demon.nl/aprs.html

73 de Andre PE1RDW

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

32. [ao16aprs] Re: AO16/LO19 APRS pass data

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 4 Sep 1999 14:13:57 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38029-1999.09.04-13.24.29--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yep, I musta brtoke something. Im transmitting!

Ill keep it on autmoatic for tnoight..

bob

On Sat, 4 Sep 1999 DHSWANSON@aol.com wrote:

> Bob: Here is today's Lusat copy. I note 2 APRS beacons, but not yours.
>
>
> cmd:MH
> 0:00|PACSAT-1   0:01|PACSAT-11   0:01|PACSAT-12
> cmd:DA
> DAYtime is 09/04/99 13:10:37
> cmd:
> cmd:MH
> 0:34|PACSAT-1   0:34|PACSAT-11   0:34|PACSAT-12
> cmd:DA
> DAYtime is 09/04/99 13:44:45
> cmd:
> cmd:
> cmd:
> cmd:
> cmd:DA
> DAYtime is 09/04/99 13:45:27
> cmd:
> [9/4/99 13:46:19]K7MT-10>APRS,LUSAT-1*,WIDE,WIDE:
> Bill in Helena, Montana DN46ap testing APRS with PacSat today erhardt@mt.net .
>
> [9/4/99 13:47:17]LUSAT-1>STATUS:
> yYÑ7€Š°w
> </
> [9/4/99 13:47:17]LUSAT-1>LSTAT:
> I P:0x3000 o:9 l:12644 f:12644, d:1 st:2
>
> [9/4/99 13:47:53]LUSAT-1>TIME-1:
> PHT: uptime is 400/04:06:11. Time is Sat Sep 04 17:40:49 1999
>
> [9/4/99 13:47:56]LUSAT-1>TLM:
> ¡YÑ7d†qljnŠj„
> £¿è

> Ù33Þ„Ü¨©pleff$@_dË] ¬!£"|#$%&&'"()*+,-O.</¨0¨1§23P4¤5¤6©7¦8£9¬:ª;<ÿ
> [9/4/99 13:47:56]LUSAT-1>STATUS:
> ¡YÑ7€‰°w
> </
> [9/4/99 13:47:56]LUSAT-1>LSTAT:
> I P:0x3000 o:9 l:12644 f:12644, d:1 st:2
>
> [9/4/99 13:48:08]W9JIU>APW228,LUSAT-1*,WIDE,WIDE:
> =3222.10N/11058.33W-PHG7240/WinAPRS 2.2.8..DM42mi...bpatt@att.net
> -AZPIMTUCSON -228-<520>
>
> [9/4/99 13:48:13]W9JIU>APW228,LUSAT-1*,WIDE,WIDE:
> _09041748c135s000g006t091r000p000P000h..b.....wUII
>
> [9/4/99 13:48:19]K7MT-10>APRS,LUSAT-1*,WIDE,WIDE:
> Bill in Helena, Montana DN46ap testing APRS with PacSat today erhardt@mt.net .
>
> [9/4/99 13:48:57]LUSAT-1>AMARG:
>
> January 20 - 1999.
>
> 9 years of LUSAT in the space !
>
> On Board Computer reload in progress.
> Digipeater active.
>
> Norberto - LU8DYF.
>
>
> [9/4/99 13:48:57]LUSAT-1>STATUS:
> ÝYÑ7€‰°w
> </
> [9/4/99 13:48:57]LUSAT-1>LSTAT:
> I P:0x3000 o:9 l:12644 f:12644, d:1 st:2
>
> [9/4/99 13:49:13]LUSAT-1>TIME-1:
> PHT: uptime is 400/04:07:31. Time is Sat Sep 04 17:42:09 1999
>
> cmd:MH
> 0:04|LUSAT-1   0:43|PACSAT-1   0:44|PACSAT-11   0:44|PACSAT-12
>
> cmd:DA
> DAYtime is 09/04/99 13:53:33
> cmd
>
> ---
> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

33. [ao16aprs] Re: AO16/LO19 APRS pass data

From: DHSWANSON@aol.com
Date: Sat, 4 Sep 1999 15:25:04 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38036-1999.09.04-14.35.39--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob: here is a page I ran across today that has a lot of sat antenna ideas
and photos.

http://members/aol/com/k5oe/

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

34. [ao16aprs] Re: AO16/LO19 APRS pass data

From: DHSWANSON@aol.com
Date: Sat, 4 Sep 1999 15:28:15 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38037-1999.09.04-14.38.48--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob: here is a page I ran across today that has a lot of sat antenna ideas
and photos. CORRECTED MESSAGE

http://members.aol.com/k5oe/

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

35. [ao16aprs] Re: AO16/LO19 APRS pass data

From: "jbblack@mindspring.com" <ks4aw@amsat.org>
Date: Sat, 4 Sep 1999 16:24:18 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38051-1999.09.04-16.41.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jerry has designed quite a few antennas. Due to his antenna restrictions,
he keeps coming up with better and better ideas. He has written a few
articles for the AMSAT Journal also. A really nice guy, I've had the
privelege of working him a couple of times via FO-20 and AO-27.

73,
Joel

OM: Joel B. Black, KS4AW   XYL: Kristie H. Black, KF4CHN
Eutaw, AL.............EM62bv   kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22
----- Original Message -----
From: <DHSWANSON@aol.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Saturday, September 04, 1999 2:25 PM
Subject: [ao16aprs] Re: AO16/LO19 APRS pass data

> Bob: here is a page I ran across today that has a lot of sat antenna ideas
> and photos.
>
> http://members/aol/com/k5oe/
>
> ---
> You are currently subscribed to ao16aprs as: ks4aw@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

36. [ao16aprs] Re: AO16/LO19 APRS Tests

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 4 Sep 1999 22:23:41 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38076-1999.09.04-21.34.29--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

IM looking to see if N5ZNL and W9JIU are on this SIG. I see you on the
birds, but need to know if you are on this sig to make testing easier to
compare notes.. If they arent, could someone send them a BULLETIN via the
birds tocome join us? (My stations is at my office).

Maybe we are already conversing!, But so far, I have not been able to
correlate the calls above with any messages I have gotten from others..

Would K7MT, N4QWF, and KB2WQM also QSL to be sure?

Thanks...

bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

37. [ao16aprs] Re: AO16/LO19 APRS Tests

From: Rick Largent <73357.3310@compuserve.com>
Date: Sat, 4 Sep 1999 23:12:39 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38082-1999.09.04-22.23.11--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Bob,
        My name is Rick (N5ZNL) , and I live in Madison Mississippi (EM42wk). I am a member of the SIG. I have been using both AO-16 and LO-19 for years. I am using 50 watts into an M2 eggbeater and RX with a 3 element homemade quad with AZ. rotor . Both antennas are in the attic. I have a PSK-1 and a MFJ -1278 TNC. My system is OK for the 1200 baud birds, but not for the 9600 baud birds. Great to see the interest in these great satellites. Keep up the work .
73's Rick

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

38. [ao16aprs] satgate ready to go

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Thu, 30 Sep 1999 04:36:08 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38121-1999.09.05-07.15.17--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning everyone. I'm done testing here, after tweaking the D/L frequencies control in WiSP I Worked all AO-16 and LO-19 passes on autopilot yesterday. My mobile station is now working. I also gated several messages to the internet. Now I need to get a flavor of aprs running on a proxy server here.Then I will be ready to gate messages unattended. Bob, does dosaprs run under a proxy server? Some notes about my testing....

Mobile is Yaesu 5100 50 watts with 4.5 dbi Diamond tri bander , TNC is a PacComm sat modem set, that does Manchester encoding out of the box. I was txing every ten seconds uplink 145.900, success rate was about 40% .

Base station is an 847 , 1 to 220 watts on 2m, AZ-EL computer controlled 435cx, 22c KLM's, with mast mounted Landweir preamps.
On two meters EIRP = 18 to 3,912. TNC is an AEA DSP 2232, which also does Manchester encoding out of the box. txing was randem , success rate 99% up and down.

Bob said, What uplink are you on. For our tests and if we are both live, we might want to chose separate freqs so we are not QRMing each other...

I don't think this matters as the satellite will only process one packet at a time , to unproto to the downlink. Anyway I'm done testing the mobile.

I will be working on getting APRSPLUS or DOSAPRS running on my radio computer, on my network, then I will be ready to run as a satgate unattended.

73 Jeff kb2wqm

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

39. [ao16aprs] Re: satgate ready to go

From: "jbblack@mindspring.com" <ks4aw@amsat.org>
Date: Sun, 5 Sep 1999 07:21:27 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38122-1999.09.05-07.31.50--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff,

I am really interested in your setup specifics. I would like to participate
in this test, but, due to the nature of my job, I usually work late hours
and get called out during all hours of the day and night.

Currently, I have the Icom '821H with the Paccomm PSK-1 and NB96. I am
using WiSP as my satellite control software and will probably purchase
APRS+SA as my APRS tracking software. As you can see, we have *similar*
setups.

What I am most interested in is what you mean by "tweaking the D/L
frequencies control in WiSP." Also, I cannot track a PacSat w/o MSPE
starting within WiSP.

One other question, do you use the PSK-1's ability to compensate for
doppler?

73,
Joel

OM: Joel B. Black, KS4AW   XYL: Kristie H. Black, KF4CHN
Eutaw, AL.............EM62bv   kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22
----- Original Message -----
From: Jeff Griffin <kb2wqm@cyberenet.net>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Thursday, September 30, 1999 3:36 AM
Subject: [ao16aprs] satgate ready to go

>
> Good morning everyone. I'm done testing here, after tweaking the D/L
> frequencies control in WiSP I Worked all AO-16 and LO-19 passes on
> autopilot yesterday. My mobile station is now working. I also gated
several
> messages to the internet. Now I need to get a flavor of aprs running on a
> proxy server here.Then I will be ready to gate messages unattended. Bob,
> does dosaprs run under a proxy server? Some notes about my testing....
>
> Mobile is Yaesu 5100 50 watts with 4.5 dbi Diamond tri bander , TNC is a
> PacComm sat modem set, that does Manchester encoding out of the box. I was
> txing every ten seconds uplink 145.900, success rate was about 40% .
>
> Base station is an 847 , 1 to 220 watts on 2m, AZ-EL computer controlled
> 435cx, 22c KLM's, with mast mounted Landweir preamps.
> On two meters EIRP = 18 to 3,912. TNC is an AEA DSP 2232, which also does
> Manchester encoding out of the box. txing was randem , success rate 99%
up
> and down.
>
> Bob said, What uplink are you on. For our tests and if we are both live,
we
> might want to chose separate freqs so we are not QRMing each other...
>
> I don't think this matters as the satellite will only process one packet
at
> a time , to unproto to the downlink. Anyway I'm done testing the mobile.
>
> I will be working on getting APRSPLUS or DOSAPRS running on my radio
> computer, on my network, then I will be ready to run as a satgate
> unattended.
>
> 73 Jeff kb2wqm
>
>
>
> ---
> You are currently subscribed to ao16aprs as: ks4aw@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

40. [ao16aprs] Re: AO16/LO19 APRS Tests

From: "John L. Patterson" <bpatt@worldnet.att.net>
Date: Sun, 05 Sep 1999 06:42:51 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38127-1999.09.05-08.53.12--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes we are on this SIG..also MicE and APRS SIGs...
We copy your station...and expect to be on today around 1100(1800z)
when we can get some good passes on LO-19 and AO16.

I am using PacComm PSK-1 modem with PacComm DFM-SA TNC and are operated
FULLDUPLEX. The xceiver is an Icom 970 and the antenna is a circular 40
el on 70 cm and 17 el on 2m. beams on A Yaesu EL/AZ rotor.
The Birds usually come up on left hand and go down right hand...at this
location.

cul 73...Jack W9JIU

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

41. [ao16aprs] Re: satgate ready to go

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 5 Sep 1999 11:28:39 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38137-1999.09.05-10.39.26--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 30 Sep 1999, Jeff Griffin wrote:

> Bob said,... we might want to chose separate freqs so we are not QRMing
> each other...
> I don't think this matters as the satellite will only process one
> packet at a time , to unproto to the downlink.

Are you sure? This would not make sense to have 4 separate uplink
receivers if only one couild work at a time. I thought the whole idea was
to let the 18% channel effeciency of aloha uplinks all add so that the
downlink was better utilized... Int his case 4 x 18% approaches 80% on
the downlink.

THey could not have designed a better digipeater! (unless You are right
and I am wrong...) Anyone know for sure?

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

42. [ao16aprs] Deviation

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 5 Sep 1999 11:49:11 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38142-1999.09.05-11.00.56--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

THinking low deviation was next to godliness, I began lowering my
deviation on Saturdays passes to try to see if that would help my poor
performance. At same time I had gone to a turnstyle. Performance got
worse!

Today I cranked it back up and immediately began having success again.

Hummh. My deviation is abotu what one would use for terrestrial packet.
I have it now set to just below where you begin to see (hear) a change in
receiver "quality"... I was sure this was too much when you consider the
added effect of 3 Khz doppler. But it appears to be just what I need.

Hummh... Maybe the satlelite is not exactly on 145.88. Lets say its
receiver was really on 145.883, that would explain why I always have
better success late in the pass and not early. THus, it might not be QRM
in central America, but just the effect of dopler and a few KHz off
frequency,.

This is another data point we must thoroughly test. When we are all
working correctly, someone needs to sweep +/1 5 KHz in 1 KHz steps and
assure ourselves exactly where the center of the uplink channels are.

And sicne each one has its own XTAL, then the results will be on a per
channel basis..

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

43. [ao16aprs] Uplink packet processing

From: Jim White <jim@coloradosatellite.com>
Date: Sun, 05 Sep 1999 11:22:28 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38155-1999.09.05-12.31.35--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Microsat software listens to all four uplink frequencies simultaneously
and will queue to the downlink packets heard at the same time. That's why
they can support multiple ground stations.
It is possible, even likely, that the receivers are no longer exactly on
their original frequence. Each frequency is set independently. It would
be very interesting to know what the exact uplink centers are now, after 9
1/2 in space. If testing for this, just remember to change only one thing
at once - the frequency up the uplink.

I sense some frustration as folks make changes and test the results. You
change something and get results that don't make sense, change it back and
it gets worse yet, making even less sense. A few of us spent a couple of
years attempting to optimize low power uplinks and I well remember that
frustration.

The unknown factor that causes most of these unreliable test results is the
uplink interference situation. It changes all the time, minute to minute,
day to night, by the day of the week, and as Tom Clark said - by the phase
of the moon. As long as you are running low EIRP that factor will be there
and will tend to confuse other test results.

I think there are two ways to set up a low power station for optimum operation
1) Beg or barrow an amplifier. This minimizes the interference problem.
Tune all other parameters for best throughput. Takes a few dozen passes.
Can be instructive and interesting. Return the amplifier knowing you are
optimized. Further variation in results will be from interference (other
users, or unintentional non-satellite).
2) Use appropriate test equipment to measure and set the below parameters
as close as possible. Following are from memory, I'm sure I'm forgetting
some things.
For the uplink:
- Deviation 3.2 KHz
- Frequency right on. Check to assure connecting the modem to the
transmitter doesn't pull it off frequency (can be a problem if directly
connecting to the varactor without enough isolation)
- Tones balanced, one not any stronger in amplitude than the other. Assure
balanced deviation
- No hum or RFI induced into transmitted audio
- Short low loss coax
- Tuned antenna for max RF out, best match.
- If using a amp assure its output is clean, no hum, no RF feedback
- Set TXD to 80ms. This is a safe value for just about any
transmitter/amplifier. After other parameters are tested 'good', back this
down till the link goes bad then increase it till good again. This gives
adequate time for the tx to lock up without excessive channel time spent on
flags.
- Assure the amp is pulling in on transmit without contact bounce or
excessive delay, or just lock it on.
- If using tracking antennas: Assure time in PC is within a couple of
seconds, elements are less than a month old, antennas direction is calibrated.
- Use circular polarization if possible. Sense doesn't matter. Uplink
antenna on the satellite is linear but it's orientation will change with
satellite motion, Faraday rotation, reflections and just about everything
else.

On the downlink:
- Use a mast preamp
- Low loss coax
- Assure receiver tuning 'beeps' don't feed into the demod and interfere

with the received signal.
- All the downlink antenna stuff
- Assure demod or TNC isn't inducing hum into the received audio
- Assure level from receiver into demod is adequate and not marginal
- Make receiver tuning steps as small as possible. On a 1200 bps psk
signal into a typical TAPR demod a 100 Hz tuning step will kill a bit and
cause a packet to be lost. Use a cheap audio O'scope to observe the eye
pattern for extra wave forms, noise, multipath, and loss of sync on tuning
steps, other stuff that will cause errors.
- If capable, switch polarization sense on signal fades. Reflections,
multipath, Faraday rotation and other effects with change the sense during
a pass. (Satellite motion won't, in the northern hemisphere. But it will
for stations near the magnetic equator).

jw
wd0e@amat.org
jim@coloradosatellite.com

>
>Hummh... Maybe the satlelite is not exactly on 145.88. Lets say its
>receiver was really on 145.883, that would explain why I always have
>better success late in the pass and not early. THus, it might not be QRM
>in central America, but just the effect of dopler and a few KHz off
>frequency,.
>
>This is another data point we must thoroughly test. When we are all
>working correctly, someone needs to sweep +/1 5 KHz in 1 KHz steps and
>assure ourselves exactly where the center of the uplink channels are.
>
>And sicne each one has its own XTAL, then the results will be on a per
>channel basis..

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

44. [ao16aprs] Help...

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 5 Sep 1999 15:08:37 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38171-1999.09.05-14.19.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

AO16 Siggers

   With todays round-table on AO16,   I am going to post a summary msg on
AMSAT-BB tonight. Pse confirm or tell me whats wrong with these
statements:

1) ANyone running Mac/WinAPRS or APRS+SA can automatically be a gateway
   by just enabling APRServe and dialing up his ISP.. (Thus we may not
   be fully dependent on dedicated peremanent gateways, but anyone at any
   time can do it easliy)...

2) 50w to a mobile whip will work fine

3) Typical TNC's are PSK-1, DSP-12, AEA-2232

Any other TNC's?

By the way, Peter who wrote PSK31 has said that YES, he would be willing
to write a PSK1200 for the AO16/LO19 if someone else can tell him how to
hook it into AX.25. In otherwords, he can decode the bits from a
soundcard, but needs the AX.25 code...

de, WB4APR, Bob

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45. [ao16aprs] Re: Help...

From: John Hansen <hansen@fredonia.edu>
Date: Sun, 05 Sep 1999 17:21:09 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38185-1999.09.05-16.34.19--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

At 03:08 PM 9/5/99 -0400, Bob Bruninga wrote:

>By the way, Peter who wrote PSK31 has said that YES, he would be willing
>to write a PSK1200 for the AO16/LO19 if someone else can tell him how to
>hook it into AX.25. In otherwords, he can decode the bits from a
>soundcard, but needs the AX.25 code...

I'm interested in this project. I have already written one terminal program
built around UI frames for another project (it will be included in an
article in the November issue of QST), so I think I have a pretty good idea
how to do this. I think it would also be desirable to do the 1200 baud up
with the soundcard as well, but that would require yet another soundcard
interface to be written. There is a fellow I know who has been working on
doing 9600 baud with a soundcard and I'm hoping to get him to "loan" me the
code for that as well. The upshot could be a single program that would do
both psk and 9600 baud fsk work through satellites, including accessing the
store and forward features. Could be very interesting.

John, W2FS

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46. [ao16aprs] Re: Help...

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Mon, 06 Sep 1999 09:27:10 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38241-1999.09.06-02.42.15--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

There are a number of ax25 modems based on soundcards out there already why
not borrow from them
I would recoment the linux drivers because the are open source and the use
of that code is complete legal.
It works in 1200 baud afsk and 9600 fsk.
The only drawback for using the linux code is that you have to make youre
own code avaleble too.

73 de Andre PE1RDW

> -----Oorspronkelijk bericht-----
> Van: John Hansen [SMTP:hansen@fredonia.edu]
> Verzonden: zondag 5 september 1999 23:21
> Aan: TAPR AO-16 APRS Special Interest Group
> Onderwerp: [ao16aprs] Re: Help...
>
> At 03:08 PM 9/5/99 -0400, Bob Bruninga wrote:
>
> >By the way, Peter who wrote PSK31 has said that YES, he would be willing
> >to write a PSK1200 for the AO16/LO19 if someone else can tell him how to
> >hook it into AX.25. In otherwords, he can decode the bits from a
> >soundcard, but needs the AX.25 code...
>
> I'm interested in this project. I have already written one terminal
> program
> built around UI frames for another project (it will be included in an
> article in the November issue of QST), so I think I have a pretty good
> idea
> how to do this. I think it would also be desirable to do the 1200 baud up
>
> with the soundcard as well, but that would require yet another soundcard
> interface to be written. There is a fellow I know who has been working on
>
> doing 9600 baud with a soundcard and I'm hoping to get him to "loan" me
> the
> code for that as well. The upshot could be a single program that would do
>
> both psk and 9600 baud fsk work through satellites, including accessing
> the
> store and forward features. Could be very interesting.
>
> John, W2FS
>
>
>

> ---
> You are currently subscribed to ao16aprs as: A.H.Schayk@arcadis.nl
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
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47. [ao16aprs] Re: ao16aprs digest: September 05, 1999

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Mon, 6 Sep 1999 08:20:34 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38250-1999.09.06-07.30.59--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I finnally got aprsplus running under a proxy server. I will be satgating
to the internet on the 15:55 utc pass of AO-16, and the 16:39 utc pass
today. I will have my mobile beaconing also. This should be fun. Anyone
not running aprs can monitor the activity , just telnet to www.aprs.net

73 Jeff kb2wqm

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

48. [ao16aprs] Re: Help...

From: David Nesting <david@fastolfe.net>
Date: Mon, 6 Sep 1999 10:24:53 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38267-1999.09.06-10.35.48--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, Sep 06, 1999 at 09:27:10AM +0200, Schayk A.H. van wrote:
   : I would recoment the linux drivers because the are open source and the use
   : of that code is complete legal.
   : It works in 1200 baud afsk and 9600 fsk.
   : The only drawback for using the linux code is that you have to make youre
   : own code avaleble too.

I wholeheartedly agree. The Linux soundmodem stuff is great and is
already integrated into the networking of Linux, so a PSK addition
would instantly have a bunch of apps that can use it, relay it,
whatever. Why re-invent all of that.

I would *love* to see other modes (like 300 baud for HF and PSK) appear
in the Linux soundmodem. I myself have been looking at the source
a lot, but at the current time I lack the knowledge to write something
up of my own. I'm learning, though...

David

--
 == David Nesting WL7RO Fastolfe david@fastolfe.net http://fastolfe.net/ ==

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49. [ao16aprs] AO16 Pass!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 6 Sep 1999 12:23:24 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38275-1999.09.06-11.34.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Way to go jeff!

I logged on and watched APRServe during the pass and saw you and N5ZNL!

Didnt see my mobile tracker though. Ill have to check tomorrow and see
what happened!

Thakns for all your work!

bob

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50. [ao16aprs] Copy via AO-16 During Approx 1600Z pass

From: "jbblack@mindspring.com" <ks4aw@amsat.org>
Date: Mon, 6 Sep 1999 11:35:37 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38277-1999.09.06-11.46.23--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Below is copy via AO-16 this morning. At last, I am home and awake during a
> 20 deg. pass to try this. Good luck to those with automated stations.
Look for me on LO-19 today also.

```
================================================================
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>TIME-1:PHT: uptime is 1814/10:20:49.  Time is Mon Sep 06 16:02:26
1999

PACSAT-1>LSTAT:I P:0x14CA o:0 l:877 f:1024, d:1 st:5
PACSAT-12>BBSTAT:Open ABCD:
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>LSTAT:I P:0x14CA o:0 l:877 f:1024, d:1 st:5

PACSAT-11>PBLIST:PB: Empty.
PACSAT-11>BSTAT:B: 1665195941
PACSAT-1>STATUS:?fÓ7Ç¬O?+§Ç o¨%J
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>TIME-1:PHT: uptime is 1814/10:23:19.  Time is Mon Sep 06 16:04:56
1999

PACSAT-11>PBLIST:PB: Empty.
PACSAT-12>BBSTAT:Open ABCD:
PACSAT-11>BSTAT:B: 1665195941
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>TLM:FfÓ7b§û§lº{ªp¨Ü"ql? ¢ó>|,
Üoyµ.åÝæéì□Õù£ò«Ð¦¾s?x?x.¦y□r?t"|"\ À!É"y#/$"
%A&□'()§*å+w,§-q.l/ñ0ú1¿2374ú5ú6«7©8ï9Ø:§
PACSAT-11>PBLIST:PB: Empty.
PACSAT-12>BBSTAT:Open ABCD:
PACSAT-11>BSTAT:B: 1665195941
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>STATUS:UfÓ7ÇçO?+§Ç o¨%J
KB2WQM-9>FM29PE,PACSAT-1*,WIDE,WIDE:50 watt mobile kb2wqm@amsat.org
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>TLM:dfÓ7[§×§hºvªj¨û"ohK ûó>|,
ÚoJµ0å|æ□ì□Ôù¢òOÐk¾w?Ç?t.És□t?n"+"W +!×"z#0$
"%6&§'?()æ*+e,§-k.h/ú0ñ1ñ2364ñ5ñ6«7Ñ8ç9Ø:§
PACSAT-1>AMSAT:September 1999
AO-16 Pacsat owned and operated by AMSAT-NA
AO16 Command Team <WJ9F>
PACSAT-1>LSTAT:I P:0x14CA o:0 l:877 f:1024, d:1 st:5
PACSAT-11>PBLIST:PB: Empty.
PACSAT-12>BBSTAT:Open ABCD:
PACSAT-11>BSTAT:B: 1665195941
N5ZNL>APW227,PACSAT-1*:=3226.55N\09005.70WSPHG0000/N5ZNL on the net , Way to
go Jeff -MSMADMADISON -227-<530>
PACSAT-1>STATUS:sfÓ7ÇêO?+§Ç o¨%J
KB2WQM-9>FM29PE,PACSAT-1*,WIDE,WIDE:50 watt mobile kb2wqm@amsat.org
PACSAT-11>PBLIST:PB: Empty.
KB2WQM-9>FM29PE,PACSAT-1*,WIDE,WIDE:50 watt mobile kb2wqm@amsat.org
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>TIME-1:PHT: uptime is 1814/10:24:49.  Time is Mon Sep 06 16:06:26
1999

PACSAT-1>TLM:éfÓ7e§ö§pºzªp¨Ö"rlC Üó>|,
Úofµ-å|æüì§□ÑùÜòOÐy¾x?w?q.to□o?q"O"\
+!É"z#0$?%5&'æ(")§*+f,-a.g/Ñ0©1ñ2374Ñ5ú6«7©8ç9Ø:
KB2WQM-9>FM29PE,PACSAT-1*,WIDE,WIDE:50 watt mobile kb2wqm@amsat.org
PACSAT-11>PBLIST:PB: Empty.
PACSAT-12>BBSTAT:Open ABCD:
PACSAT-11>BSTAT:B: 1665195941
PACSAT-1>STATUS:'fÓ7ÇêO?+§Ç o¨%J
KB2WQM-9>FM29PE,PACSAT-1*,WIDE,WIDE:50 watt mobile kb2wqm@amsat.org
N5ZNL>APW227,PACSAT-1*:=3226.55N\09005.70WSPHG0000/N5ZNL on the net , Way to
```

```
go Jeff -MSMADMADISON -227-<530>
PACSAT-1>TIME-1:PHT: uptime is 1814/10:25:19.  Time is Mon Sep 06 16:06:56
1999

PACSAT-11>PBLIST:PB: Empty.
PACSAT-11>PBLIST:PB: Empty.
PACSAT-12>BBSTAT:Open ABCD:
PACSAT-11>BSTAT:B: 1665195941
PACSAT-1>STATUS:»fÓ7ÇëO?+§Ç o¨%J

PACSAT-11>PBLIST:PB: Empty.
KB2WQM-9>FM29PE,PACSAT-1*,WIDE,WIDE:50 watt mobile kb2wqm@amsat.org
PACSAT-1>TIME-1:PHT: uptime is 1814/10:25:49.  Time is Mon Sep 06 16:07:26
1999

PACSAT-11>BSTAT:B: 1665195941
PACSAT-11>PBLIST:PB: Empty.
PACSAT-1>LSTAT:I P:0x14CA o:0 l:877 f:1024, d:1 st:5
================================================================

73,
Joel
--------------------------------------------------------------------------
OM:  Joel B. Black, KS4AW          XYL:  Kristie H. Black, KF4CHN
Eutaw, AL..............EM62bv          kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22


---
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```

51. [ao16aprs] Re: AO16 Pass!

```
From: "jbblack@mindspring.com" <ks4aw@amsat.org>
Date: Mon, 6 Sep 1999 11:36:24 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38278-1999.09.06-11.46.54--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

```
Wondering if you saw KS4AW, Bob.

Thanks es 73,
Joel
--------------------------------------------------------------------------
OM:  Joel B. Black, KS4AW          XYL:  Kristie H. Black, KF4CHN
Eutaw, AL..............EM62bv          kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, FO-29, KO-25, UO-22
----- Original Message -----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Monday, September 06, 1999 11:23 AM
Subject: [ao16aprs] AO16 Pass!


> Way to go jeff!
>
> I logged on and watched APRServe during the pass and saw you and N5ZNL!
>
> Didnt see my mobile tracker though.  Ill have to check tomorrow and see
> what happened!
>
> Thakns for all your work!
>
> bob
>
>
>
> ---
> You are currently subscribed to ao16aprs as: ks4aw@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
```

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52. [ao16aprs] Re: Help...

From: "PAT McGRATH" <patricio@cyberg8t.com>
Date: Mon, 6 Sep 1999 10:04:34 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38281-1999.09.06-12.15.08--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

Where are the modems based on sound cards located?

Bye
Pat

> There are a number of ax25 modems based on soundcards out there already
why
> not borrow from them
> I would recoment the linux drivers because the are open source and the use
> of that code is complete legal.
> It works in 1200 baud afsk and 9600 fsk.
> The only drawback for using the linux code is that you have to make youre
> own code avaleble too.
>
> 73 de Andre PE1RDW

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

53. [ao16aprs] Re: ao16aprs digest: September 05, 1999

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Mon, 6 Sep 1999 16:57:33 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38318-1999.09.06-16.08.05--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good evening SIG. Learned alot about this over the last week or so. The psk
pacsats are easily used for an aprs to internet satgate, in an unattended
oscar class satellite station. I have a few observations I will share with
the group. Running APRSPLUS 1.99v on a proxy server, 32 meg of memory
configured in APRSPLUS. Had some difficulty with the proxy server
configuration, but with the help of Brent
 kh2z finally got it running. Built two tnc configuration files for ao16 and
lo19. Once the computer connected through the proxy it was unattended for
both passes. I was present only to send unproto's and to monitor the various
data streams. mostly All went well, APRS crashed once, so I increased the
memory to 40 meg. For some reason I didn't see my mobile being reported in
my traffic or position window. I saw it come across the tnc, then the tcp
window. One of the problems I see is stripping off the normal satellite
traffic, some of it contains binary data which aprs s/w interpolates as
line feeds, carriage returns, etc. This will have to be addressed by the
various aprs software authors. Or can it be filtered by existing s/w setups.
I might be able to clean it up here , I'm not sure. I plan on doing this
again sometime next weekend. So we can try some different configurations.
It was fun. Anyway here is my input on Bob's questions.

 1) Anyone running Mac/WinAPRS or APRS+SA can automatically be a gateway
by just enabling APRServe and dialing up his ISP.. (Thus we may not be
fully dependent on dedicated permenent gateways, but anyone at any time can
do it easliy)...

this is true, if you want to gate to local rf, it would get more
complacated. Anyone want my AEA DSP2232 tnc config files, let me know. Also
I will set up the PacComm NB96 sat set for the next test. I think these two
are the only ones to use. You could use a moded tnc(for manchester) with a
PacComm PSK modem also.

 2) 50w to a mobile whip will work fine

this is true, I get better then 40% u/l , and I didn't even check the deviat
ion yet !

3) Typical TNC's are PSK-1, DSP-12, AEA-2232

Any other TNC's?

for the downlink see above. for the uplink, I talked to Kantronics last week
and was told that older KPC-3's , and 9612's (not plus models) have a
seperate clock chip, so they could be easily modded for Manchester encoding.
If I had one handy I would work with Kantronics to get it working. The newer
Plus models have the clock intergrated into the cpu. There must be
thousands of kpc-3's floating around. I'm going to look for one myself, for
the mobile. One more thing watching the data stream on LO-19 , three of us
were hitting the sat at the same time , so it looks like it buffers the data
to be unproto'd very well. The guys who designed the s/w ten years ago did
a heck of a job. I just want to thank them for their work. this whole system
can become a very valueable part of the APRS worldwide network. If IO-26
becomes avaliable , even better.

73 Jeff kb2wqm

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

54. [ao16aprs] Re: [amsat-bb] AO16/LO19 Traknet Operational!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 6 Sep 1999 23:06:21 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>, ao16aprs@tapr.org
Message-ID: <LYR833-38355-1999.09.06-22.18.08--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Two other items of note about AO16/LO19 for APRS mobiles:

1) Being polar orbiters, the higher your latitude the more passes you get.
For London, you get 14, for Edmonton Alberta, there are probably
16 (we only get about 10). Great for tracking someone out in the
wilderness... At the south pole, you get 30! ANy HAMS going to Antarctica
this summer?

2) Unlike Terrestrial APRS digipeaters, the AO16/LO19 birds operate FOUR
times more effeciently. They have 4 user uplink channels each. Thus,
instead of becoming collision-limited at 18% (the Aloha optimum), we get
four times this or almost 75% channel capacity!

Thus we could have as many as 300 users per footprint per pass (At a 5
minute rate). I recommend that all users include their UPLINK FREQ in
their status text so that everyone can see what channels are loaded and by
how many users...

P.S. Work permitting, I will probably be able to downlink most Weekday
passes for the east coast..

Again, if anyone knows of any big expeditions going offshore or wilderness
or whatever that would be of interest to track (a few times a day) via
Amateur radio, let us know..

de WB4APR, Bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

55. [ao16aprs] [amsat-bb] AO16/LO19 Traknet Operational! (fwd)

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 6 Sep 1999 23:07:30 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38356-1999.09.06-22.18.34--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I posted this on AMSAT and APRS. Here is the AO16APRS copy
---------- Forwarded message ----------

AO16/LO19 are fully operational as the on-orbit element in TRAKnet!

These satellites can be used worldwide for mobile satellite position/
status and message reporting. TRAKnet links these packets into the
worldwide APRServe system for access anywhere via WEB pages, Internet
users and APRS users on RF. We have just completed a one week test and it
works. We now invite others to join us as we grow the system.

MOBILES: Any mobile with a 2m FM radio and Manchester TNC* can
uplink his GPS position/Status and/or Messages from anywhere.

USERS: Anyone can view these packets live by telnet to APRServe at
199.227.86.221 port 23. Or you can view these mobiles by visiting
any of the many APRS WEB pages (Position display only http://www.aprs.net)
. OR, if any of these Mobiles send you a "message", and you are on the
air live on your local APRS frequency, then you will receive the packet
live via your local IGate.

SATGATES: What makes all this possible is Mac/WinAPRS or APRS+SA
software. Any conventional user of these popular APRS programs can
simply dial into his ISP, and any packets his station sees on RF are
automatically forwarded into the worldwide APRServe system.
If such a user just happens to dial in to his ISP during a pass and is
using a PACSAT TNC and is working an AO16 or LO19 pass, then he
automatically and without any effort serves as the Sat-Gate for his entire
footprint.

When we first proposed Traknet over 2 years ago, we were asking for
special software, unattended and automatic SatGates involving a lot of
complexity and critical paths. But since most versions of APRS now
have built-in RF=>TNC=>ISP interfaces to the internet, now ANY
station can serve at any time as a SatGate. So, as long as at least
one person in the satellite footprint is receiving the satellite,
then EVERYONE has access to the live downlink via APRServe!

Note, the total ISP time is only about 15 minutes per pass, so
a simple dial-up ground station is just fine. THere is no need for
permanent dedicated Internet access.

MANCHESTER TNC*: Although any Satellite TNC/Modem can be used, 99% of
most mobile operators would be left out. BUT as I pointed out in the
original Traknet Paper, ANY TAPR-2 TNC CLONE can generate Manchester
with the simple addition of an 89 cent XOR gate and a switch. THus,
almost anyone can transmit from his mobile 2m FM rig... For details
see my TRAKNET.TXT in any of the APRSdos docs, or AMSAT Journal, or visit

   http://web.usna.navy.mil/~bruninga/traknet.html

FUTURE: Now, if this mode becomes popular, then it will also be
easy for someone to write a PSK demod and Manchester Modem for
using ANY PC and a SOUND CARD! Then anyone anywhere can do this.

DOWNLINK: Although the downlink is primarily needed only at the SatGate
stations, any mobile with an all mode UHF rig or HF rig and downconverter
can also receive the downlink. Of course a small beam will always be
necessary due to the weak downlink signal from the satelite. (Conversly
the 2m Uplink works fine on an OMNI).

GROUP EFFORT: The reason for this posting is to invite anyone with a
1200 baud PSK PACSAT TNC to come join us. We need enough people playing
on the bird so that we can guarantee that there will always be at least
one station somewhere on the East and West coast of the USA listening
to the downlink.

If you havent experienced the old-fashioned fun of live, person-to-person
UI packet digipeating (such as became popular via MIR over the last
year or so in the USA), then dust off that old PSK modem and join us
on AO16 and LO19.

24 PASSES A DAY: ALso, if we could get IO26 to enable digipeat, then
we would have a constellation of THREE TRAKNET Satellites giving as many
as 18 passes a day... The ultimate addition to this constellation would
be if all three satellites would enable a COMMON ALIAS so that the
mobiles didnt need to change DIGIPEATER calls on every pass. An
ALIAS of TRKNET for example would do nicely... If WO18 could be re-
activated, then we could have 24 passes a day!

All FOUR of these satellites have a common UPLINK on 145.90!
Thus the mobile does not need to QSY, nor change his DIGI PATH! He

just concentrates on driving... and we can track him...

de WB4APR, Bob

If you are interested in this use of AO16/LO19, come join our AO16APRS SIG
by subscribing with listserv@tapr.org...

Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

56. [ao16aprs] RE: Help...

From: "Gene Harlan" <atvq@hampubs.com>
Date: Mon, 6 Sep 1999 22:20:52 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38359-1999.09.06-22.32.40--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Does not the ARRL have a book on AX.25. I bought one years ago (should have
it someplace) that explains the protocol. Not sure it's still in print
though.

Gene Harlan - WB9MMM
Harlan Technologies - publishers of
Amateur Television Quarterly
NEW email address: ATVQ@hampubs.com
OSCAR Satellite Report
NEW email address: OSR@hampubs.com
New WEB page: http://www.hampubs.com

-----Original Message-----
From: bounce-ao16aprs-10727@lists.tapr.org
[mailto:bounce-ao16aprs-10727@lists.tapr.org]On Behalf Of Bob Bruninga
Sent: Sunday, September 05, 1999 2:09 PM
To: TAPR AO-16 APRS Special Interest Group
Subject: [ao16aprs] Help...

AO16 Siggers

   With todays round-table on AO16,   I am going to post a summary msg on
AMSAT-BB tonight. Pse confirm or tell me whats wrong with these
statements:

1) ANyone running Mac/WinAPRS or APRS+SA can automatically be a gateway
   by just enabling APRServe and dialing up his ISP.. (Thus we may not
   be fully dependent on dedicated peremanent gateways, but anyone at any
   time can do it easliy)...

2) 50w to a mobile whip will work fine

3) Typical TNC's are PSK-1, DSP-12, AEA-2232

Any other TNC's?

By the way, Peter who wrote PSK31 has said that YES, he would be willing
to write a PSK1200 for the AO16/LO19 if someone else can tell him how to
hook it into AX.25. In otherwords, he can decode the bits from a
soundcard, but needs the AX.25 code...

de, WB4APR, Bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

57. [ao16aprs] Re: Help...

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Tue, 07 Sep 1999 09:42:58 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38381-1999.09.07-02.57.48--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The linux modems are in the kernel and can be downloaded at
ftp://ftp.kernel.org
the documentation of the drivers are included with the source
make sure you can decomprese a tar.gz file as that is the standard
compression for unix like os
the latest stabel version is 2.2.12 and experimental versions start with
2.3.x

> -----Oorspronkelijk bericht-----
> Van: PAT McGRATH [SMTP:patricio@cyberg8t.com]
> Verzonden: maandag 6 september 1999 19:05
> Aan: TAPR AO-16 APRS Special Interest Group
> Onderwerp: [ao16aprs] Re: Help...
>
> Hi
>
> Where are the modems based on sound cards located?
>
> Bye
> Pat
>
>
> > There are a number of ax25 modems based on soundcards out there already
> why
> > not borrow from them
> > I would recoment the linux drivers because the are open source and the
> use
> > of that code is complete legal.
> > It works in 1200 baud afsk and 9600 fsk.
> > The only drawback for using the linux code is that you have to make
> youre
> > own code avaleble too.
> >
> > 73 de Andre PE1RDW

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58. [ao16aprs] APRS TRAKNET Constellation

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 10:34:46 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@amsat.org, TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-38404-1999.09.07-09.45.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

AO16APRS SIG: (all 133 of you)

Per the below message, AMSAT-Italy is going to reload IO-26 so that we get
a 3rd UI-DIGIpeating satellite on orbit! This will raise passes to 15 or
so per day for USA, and more for higher latitudes. All three birds listen
on 145.900. THus we have an amateur digital comunications constellation
for LIVE UI packet communications.. And people are working on SOUNDCARD-
only groundstations to eliminate the difficulty and expense of PSK modems.

de WB4APR, Bob

On Tue, 7 Sep 1999, Alberto E. Zagni wrote:

> Hi Bob,
> just yesterday I asked Daniele IK2XRO (Itamsat Ground Station) to reload
> the software and activate the digipeater.
> Since the spacecraft was left in MBL mode for more than 4 months, we made
> an overall check that showed the s/c in good condition.
> We plan to start the reload during the next weekend.

> All the best
> Alberto E. Zagni - I2KBD
> AMSAT-Italy V-President

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

59. [ao16aprs] Great news on the TNC-2 modification

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Tue, 7 Sep 1999 12:52:05 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38441-1999.09.07-13.03.06--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I had no progress to report over the weekend on the Manchester
modification for the TNC-2, because I left my TNC at home to enjoy
the sights at the sunny beach on the Gulf of Mexico.

The relaxing time away made me do some thinking about solving
some issues to implement the XOR mod to a TNC-2 compatible.
It appears to have helped, since I can now say I have it working,
but there are a few things that need to be done to insure it works.
Yes, it worked this afternoon!

Hopefully, I can post some insight on this by documenting it this
weekend and clean up a few things before sending it out.

Here is a listing of a pass this afternoon that I copied on the AO-16
downlink after activating my mobile. Incidentally, I was using 10W
from a mobile. I was not using a 5/8w antenna as I broadcasted.
Instead, I was using a shortened 2M magnetic mount center loaded
antenna that is 17.5" in length.

The attached file shows a modified log and the beacon from my
modified TNC-2 compatible from the Jeep.

Tim - N8DEU
Huntsville, Alabama
[Attachment: 99090716.log; text/plain; 2,926 bytes]

60. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Tue, 7 Sep 1999 13:17:47 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <amsat-bb@AMSAT.Org>,
        "TAPR APRS Special Interest Group" <aprssig@tapr.org>
Message-ID: <LYR833-38447-1999.09.07-13.29.17--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I propose that we investigate if the PACSAT's can be programmed
to recognize a generic identifier to digipeat APRS packets if it
is feasible. This would make it much easier for the traveler so
they will not have to constantly change the digipeat callsign each
time a different bird is overhead. Currently, we have AO-16 and
LU-19 to experiment with APRS. When IO-26 (a nice bird that
has been sadly missed) is activated as AMSAT-Italy mention's,
it will add a third callsign that must be programmed to digipeat
through these available birds.

Since I do not carry a laptop with me at all times in my Jeep, it
will be impossible to take advantage of all the PACSAT's that
could be reached from my mobile.

If all the birds would accept the alias of PACSAT or APRSAT,
then we could accomplish a goal to make it easier for the
travelers of the world to more easily access these birds without
having to reprogram our TNC's. A simpler solution would be to
use the standard alias of RELAY or WIDE.

When the PACSAT or APRSAT digipeat callsign is utilized, it
would be nice if the bird could substitute this with the appropriate
PACSAT-1, LUSAT-1, or ITMSAT-1 identifier on the digipeated
packet on the downlink.

If the PACSAT command stations are reading this, let us know if
it is possible to program these birds to accept additional alias
callsigns for digipeating on these 1200 baud Manchester / PSK
satellites.

Thanks,

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: ao16aprs@tapr.org <ao16aprs@tapr.org>
Cc: amsat-bb@AMSAT.Org <amsat-bb@AMSAT.Org>; TAPR APRS Special Interest
Group <aprssig@tapr.org>
Date: Tuesday, September 07, 1999 9:35 AM
Subject: [amsat-bb] APRS TRAKNET Constellation

>AO16APRS SIG: (all 133 of you)
>
>Per the below message, AMSAT-Italy is going to reload IO-26 so that we get
>a 3rd UI-DIGIpeating satellite on orbit! This will raise passes to 15 or
>so per day for USA, and more for higher latitudes. All three birds listen
>on 145.900. THus we have an amateur digital comunications constellation
>for LIVE UI packet communications.. And people are working on SOUNDCARD-
>only groundstations to eliminate the difficulty and expense of PSK modems.
>
>de WB4APR, Bob
>
>On Tue, 7 Sep 1999, Alberto E. Zagni wrote:
>
>> Hi Bob,
>> just yesterday I asked Daniele IK2XRO (Itamsat Ground Station) to reload
>> the software and activate the digipeater.
>> Since the spacecraft was left in MBL mode for more than 4 months, we made
>> an overall check that showed the s/c in good condition.
>> We plan to start the reload during the next weekend.
>> All the best
>> Alberto E. Zagni - I2KBD
>> AMSAT-Italy V-President
>
>----
>Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
>To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

61. [ao16aprs] Pacsat FREQS!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 14:30:00 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38449-1999.09.07-13.41.02--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Great news from Tim that the WB4APR $3 TAPR-2 TNC mod worked! We are
rolling!

The reason I havent gotten around to it is that I am still not happy with
my 20W DSP-12 uplink. Im still only getting about 10% or less success.
I want to get my PACSAT uplink working 100% before I start experimenting
with the TNC-2.

TODAY, I finally had a clue. I was still getting NOTHING through LUSAT on
145.90 and decided to try - 5KHz.... BETTER... moved down to 145.89...
BETTER STILL!. Almost 100% Thus, my problem appears to be frequency.
Now I need to find out if it is my rig or the satellilte.

I ask all of you while testing to try +/- 5 KHz so we can find out if the
published frequencies have drifted over the 10 years they have been in
space. Remember, there is +/- 3KHz doppler already. But I want to find
out where the CENTER of each uplink is now located..

My suspicion is that LUSAT 145.90 is low....

We have 8 channels to test, so there is enough work for all of us...
(Each one has a separate crystal)...

bob

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62. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 14:53:16 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org, TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-38452-1999.09.07-14.04.10--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 7 Sep 1999, Tim Cunningham wrote:

> I propose that we investigate if the PACSAT's can be programmed
> to recognize a generic identifier to digipeat APRS packets if it
> is feasible....

Just this morning I wrote to both AO16 and IO26 controllers asking if
they could add the alias of "TRKNET"... and do callsign substitution. I
explained to them all the details.. I have my fingers crossed!

bob, WB4APR

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63. [ao16aprs] LUSAT Freq

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 15:35:41 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38457-1999.09.07-14.46.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I measeured my radio and it is right on. So I am convinced that LUSAT's
145.900 channel is at least 5 KHz lower. More testing to see how far.
But I got solid digis at 145.890 during approach (with the additional
consideration of the 3 KHz doppler)..

bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

64. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Tue, 7 Sep 1999 15:08:26 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <amsat-bb@AMSAT.Org>,
        "TAPR APRS Special Interest Group" <aprssig@tapr.org>
Message-ID: <LYR833-38461-1999.09.07-15.19.25--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

After thinking about this some more, the alias of RELAY or
WIDE would best fit the needs of someone who is using
a TNC-2 with the Manchester modification. This would
eliminate the need to reprogram your TNC when switching
between normal AFSK for the terrestrial APRS RF network
and the PACSAT TrakNet mode when switching the output
to Manchester encoding.

Otherwise, most of use would be locked into using our
modified TNC's for one or the other unless we lug a laptop
around with us. :-(

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org <amsat-bb@AMSAT.Org>; TAPR APRS Special Interest
Group <aprssig@tapr.org>
Date: Tuesday, September 07, 1999 1:54 PM
Subject: [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

>On Tue, 7 Sep 1999, Tim Cunningham wrote:
>
>> I propose that we investigate if the PACSAT's can be programmed
>> to recognize a generic identifier to digipeat APRS packets if it
>> is feasible....
>
>Just this morning I wrote to both AO16 and IO26 controllers asking if
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>explained to them all the details.. I have my fingers crossed!
>
>bob, WB4APR
>
>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
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>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

65. [ao16aprs] Re: APRS TRAKNET Constellation

From: kb2wqm@juno.com
Date: Tue, 7 Sep 1999 16:31:09 edt
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38472-1999.09.07-15.58.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ask them if they need any telemetry while uploading the satellite. If
so, let me know. I',m in FM29pe

73 Jeff kb2wqm

On Tue, 7 Sep 1999 10:34:46 -0400 (EDT) Bob Bruninga
<bruninga@nadn.navy.mil> writes:
> AO16APRS SIG: (all 133 of you)
>
> Per the below message, AMSAT-Italy is going to reload IO-26 so that
> we get
> a 3rd UI-DIGIpeating satellite on orbit! This will raise passes to
> 15 or
> so per day for USA, and more for higher latitudes. All three birds
> listen
> on 145.900. THus we have an amateur digital comunications
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> for LIVE UI packet communications.. And people are working on
> SOUNDCARD-
> only groundstations to eliminate the difficulty and expense of PSK
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> de WB4APR, Bob
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> > Hi Bob,
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> > Since the spacecraft was left in MBL mode for more than 4 months,
> we made
> > an overall check that showed the s/c in good condition.
> > We plan to start the reload during the next weekend.
> > All the best
> > Alberto E. Zagni - I2KBD
> > AMSAT-Italy V-President
>
>
> ---
> You are currently subscribed to ao16aprs as: KB2WQM@JUNO.COM
> To unsubscribe send a blank email to
> leave-ao16aprs-833L@lists.tapr.org
>

_____
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You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

66. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: kb2wqm@juno.com
Date: Tue, 7 Sep 1999 16:41:04 edt
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@lists.tapr.org, amsat-bb@AMSAT.Org, aprssig@tapr.org
Message-ID: <LYR833-38473-1999.09.07-15.59.32--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Relay is a great idea, but perhaps the s/w authors will allow pacsat-1,
lusat-1, etc to be an alias for relay, internally in the s/w without any
user input other then relay. This would pose no problem for all the
terresteral station's as there on another freq. What I do now Tim is use
a terminal program in my palm pilot, to change the callsign. There is
also a great program for the palm called pocketsat that does a great job
as a pass predictor. So I always have my Palm with me anyway.

73 Jeff kb2wqm

On Tue, 7 Sep 1999 15:08:26 -0500 "Tim Cunningham"
<tim_cunningham@mindspring.com> writes:
>
> After thinking about this some more, the alias of RELAY or
> WIDE would best fit the needs of someone who is using
> a TNC-2 with the Manchester modification. This would
> eliminate the need to reprogram your TNC when switching
> between normal AFSK for the terrestrial APRS RF network
> and the PACSAT TrakNet mode when switching the output
> to Manchester encoding.
>
> Otherwise, most of use would be locked into using our
> modified TNC's for one or the other unless we lug a laptop
> around with us. :-(
>
>
>
> Tim - N8DEU
> Huntsville, Alabama
>
>
>
> -----Original Message-----
> From: Bob Bruninga <bruninga@nadn.navy.mil>
> To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
> Cc: amsat-bb@AMSAT.Org <amsat-bb@AMSAT.Org>; TAPR APRS Special
> Interest
> Group <aprssig@tapr.org>
> Date: Tuesday, September 07, 1999 1:54 PM
> Subject: [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation
>
>

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> >bob, WB4APR
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> >---
> >You are currently subscribed to ao16aprs as:
> tim_cunningham@mindspring.com
> >To unsubscribe send a blank email to
> leave-ao16aprs-833L@lists.tapr.org
> >
>
>
> ---
> You are currently subscribed to ao16aprs as: KB2WQM@JUNO.COM
> To unsubscribe send a blank email to
> leave-ao16aprs-833L@lists.tapr.org
>

_____
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Try Juno Web: http://dl.www.juno.com/dynoget/tagj.

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

67. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 17:40:36 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38480-1999.09.07-16.51.03--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Tue, 7 Sep 1999, Tim Cunningham wrote:

> After thinking about this some more, the alias of RELAY or
> WIDE would best fit the needs of someone who is using
> a TNC-2 with the Manchester modification. This would
> eliminate the need to reprogram your TNC when switching
> between normal AFSK for the terrestrial APRS RF network
> and the PACSAT TrakNet mode when switching the output
> to Manchester encoding.

GOod thinking TIM! I had at first rejected the idea of RELAY, since it
could cause every station on the planet to key up.. but now realize, that
it WONT. Becuse the first relay will always be used up by the satellite.
Therefore I concur. I think RELAY is best then, since that is what most
of use have as our first hop mobile?

Bob

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68. [ao16aprs] Re: LUSAT Freq

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Tue, 7 Sep 1999 18:0:19
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38490-1999.09.07-18.10.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I don't Know Bob. I have no problem with lo-19. I will look at it tonite a
little more closely.I will Let you know. Oh, by the way I checked the
deviation in the mobile, it's about 3.4k, a little high, but the tnc is
really set up for my 847 , and it's a pain to adjust. If it ain't broke
don't fix it.

73 Jeff kb2wqm

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69. [ao16aprs] More AO16 lessons?

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 7 Sep 1999 23:19:03 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: wd0e@amsat.org
Message-ID: <LYR833-38527-1999.09.07-22.30.30--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well, two things from tonights testing... on AO16

1) I abandoned my Turnstyle over the car roof. It was terrible. I
thought it should do better than a vertical, based on my understanding of
the geometry of the Microsats.. But my success was less than 10% on GOOD
days.. Going back to the Vert has got me back in the saddle... (still
running 20w).

2) I went to 145.91 and got MUCH BETTER results... almost 100% compared to
my previous 10% yuky success on 90. THen at the end of the pass, I
thought I would try 145.915 and by golly, it still worked and, get this, I
was seeing DOUBLE digipeats. This tells me that I was getting into both
the "145.90" and "145.92" receivers at the same time. (does anyone have
any other explaination?) If this is so, then the 145.90 is actually at
145.91 and the 145.92 would have to be quite low...

I invite others to confirm or debunk these crazy results.   THe good
news is that I am finally getting in successfully and reliably... on
145.91. (Then again, my HP SIg Gen could be out of cal?)

The bad news is that I have found LUSAT is best on 145.895, so if that is
true, then the great advantage of these birds all being on "145.900" is
slowly flying out the window...

SOrry for all the drivel here, but there is a lot to learn (or relearn)

bob, WB4APR

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70. [ao16aprs] More AO16 lessons?

From: Jim White <jim@coloradosatellite.com>
Date: Tue, 07 Sep 1999 22:31:28 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38542-1999.09.07-23.40.31--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>2) I went to 145.91 and got MUCH BETTER results... almost 100% compared to
>my previous 10% yuky success on 90. THen at the end of the pass, I
>thought I would try 145.915 and by golly, it still worked and, get this, I
>was seeing DOUBLE digipeats. This tells me that I was getting into both
>the "145.90" and "145.92" receivers at the same time. (does anyone have
>any other explaination?) If this is so, then the 145.90 is actually at
>145.91 and the 145.92 would have to be quite low...
You were undoubtedly getting into both at once. The receivers have about a
10 KHz bandwidth to reduce or eliminate the need to tune the uplink for
Doppler. If you sit between them you will often get into two at once,
especially if you are a bit wide on deviation. We have software in the 2nd
stage loader to check for this and kill one of the packets, which prevents
some problems when loading software. But we found it useful to not include
that in the operational house keeping task so we could perform just the
experiment you are doing. Even when the birds were very new in orbit it
was possible to get into any two receivers by sitting on just the right
frequency. You will still see this happen today with stations using the
Packsat Broadcast Protocol. Watch the downlink for "OK W0XX" twice in a

row. Take care in drawing conclusions from a single pass worth of data.
Remember the uncontrolled and un-characterizable (is that a word?) uplink
interference situation. There could be a signal on the low side of the
passband you can't compete with. You move a bit higher and all of a sudden
things improve dramatically. That does not necessarily prove the receiver
center frequency is off.
On a commercial UoSat we found a continuos carrier from Canada right smack
on one of the uplink freqs. To get around it we observe where it falls in
the receiver passband given Doppler from it to the bird, and we go to the
other side and get in. The difference is like flipping a switch.

Getting into two at once is yet another reason to keep your deviation low.

jw
jim@coloradosatellite.com

>
>I invite others to confirm or debunk these crazy results.   THe good
>news is that I am finally getting in successfully and reliably... on
>145.91. (Then again, my HP SIg Gen could be out of cal?)
>
>The bad news is that I have found LUSAT is best on 145.895, so if that is
>true, then the great advantage of these birds all being on "145.900" is
>slowly flying out the window...
>
>SOrry for all the drivel here, but there is a lot to learn (or relearn)
>
>bob, WB4APR
>
>
>
>

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71. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: "Dennis Ray Wingo" <wingod@mailcity.com>
Date: Tue, 07 Sep 1999 22:51:28 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@AMSAT.Org, "TAPR APRS Special Interest Group" <aprssig@tapr.org>
Message-ID: <LYR833-38565-1999.09.08-01.02.41--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The Grace of God and a strong space exploration
and development program is the key to our future on Earth

On Tue, 7 Sep 1999 10:34:46   Bob Bruninga wrote:
>AO16APRS SIG: (all 133 of you)
>
>Per the below message, AMSAT-Italy is going to reload IO-26 so that we get
>a 3rd UI-DIGIpeating satellite on orbit! This will raise passes to 15 or
>so per day for USA, and more for higher latitudes. All three birds listen
>on 145.900. THus we have an amateur digital comunications constellation
>for LIVE UI packet communications.. And people are working on SOUNDCARD-
>only groundstations to eliminate the difficulty and expense of PSK modems.
>
>de WB4APR, Bob

Bob

This is awesome. You have found a use for the pacsats that will help increase their utilization for some
 time to come. A common complaint has been the lack of activity on those birds of late.

I had dinner with the esteemed Mr. Jan King a couple of weeks ago and one of the ideas passed around was
 a constellation of microsats doing something. I want to keep our satellite service alive and growing.
Your efforts are helping out a lot!

Dennis Wingo
KD4ETA
SO-33 founder

sniff

I wish we could set up our bird for this!

Get your FREE Email at http://mailcity.lycos.com
Get your PERSONALIZED START PAGE at http://my.lycos.com

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72. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 8 Sep 1999 09:27:58 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@tapr.org, amsat-bb@AMSAT.Org,
TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-38587-1999.09.08-08.39.01--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks!

I am a ham radio adict. I just cant get enough!

So much fun to be had... so little time...

bob

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73. [ao16aprs] Re: [amsat-bb] APRS TRAKNET Constellation

From: kb2wqm@juno.com
Date: Wed, 8 Sep 1999 10:18:59 edt
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38592-1999.09.08-09.38.46--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Talked to PacComm about how to resolve the multiple callsign problem on
the ground. Only two things can be done.

1. transmit three times with the id of each satellite.

2. Use of wild cards in the field, for example....
unproto fm29pe via *sat*,wide,wide

Both of these will require a firmware change. If any changes to the
satellite callsign aren't possible, number 2 above wouldn't work.
Anyway Making the callsigns the same might cause interference
problems(if two or more are within range, I haven't really checked how
much this would happen) and it might not be legal anyway. So maybe a
combination of wild cards and sat callsign change? Can the sats be
programmed to accept wild cards? Or do they now ? So maybe special
firmware to TX all three id's is the only alternative. I still like my
Palm Pilot, that and a simple terminal program. I have it with me anyway
to track the satellites.

73 Jeff kb2wqm

<tim_cunningham@mindspring.com> writes:
>
> After thinking about this some more, the alias of RELAY or
> WIDE would best fit the needs of someone who is using
> a TNC-2 with the Manchester modification. This would
> eliminate the need to reprogram your TNC when switching
> between normal AFSK for the terrestrial APRS RF network
> and the PACSAT TrakNet mode when switching the output
> to Manchester encoding.
>
> Otherwise, most of use would be locked into using our
> modified TNC's for one or the other unless we lug a laptop
> around with us. :-(
>
>
>
> Tim - N8DEU
> Huntsville, Alabama
>

_____
Get the Internet just the way you want it.
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74. [ao16aprs] cheap modem

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Thu, 09 Sep 1999 09:56:53 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38727-1999.09.09-03.08.29--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

Finaly got the design for a cheaper psk modem in my hands
it turns out to be a design copyrighted by James Miller G3RUH dated oct 20
1986

I don't know if james stil produces the pcb but in the booklet he states a
price of 16.50 pond sterling post paid for uk/europe and 17.50 pond sterling
airmail elswhere (please note these are 1986 prices)

the parts will very likely be below $20 in total

in my eyes a very good alternative for the rather expencive psk-1 dsp2232
etc.

73 de Andre PE1RDW

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75. [ao16aprs] RE: Cheap Modem

From: "Darryl Smith" <vk2tds@ozemail.com.au>
Date: Fri, 10 Sep 1999 15:04:30 +1000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38833-1999.09.10-00.15.36--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi there...

If it is the design I am thinking of, STAY AWAY... The unit uses a digital
PLL, and rectifies the incoming audio to put into the PLL... From memory it
is about 3dB worse than any other design

Darryl

Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]

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76. [ao16aprs] RE: Cheap Modem

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Fri, 10 Sep 1999 12:24:44 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-38852-1999.09.10-05.36.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>From the jas-1 modem discription:

The carrier recovery circuit used here is a digital "squaring loop"

U4 (TL084 opamp) pins 2,3,1 is a limiter, which simply makes all subsequent
signal processing digital.
The limited signal is multiplied by itself delayed by 1/4 cycle. The dely is

provided by 4 bit shift register U8 which samples the signal at its pin 7,
and is clocked at 16x carrier frequency. The multiplication happens in EXOR
gate U7 pins 5,6. This creates (at U7 pin 4) one cycle of twice the carrier
frequency for every zero crossing of the signal. Mathematically we can say
the signal is Cos(wt+-pi/2), the + or - corresponding to date 0 or 1. So the
effect of this multiplication is (ignoring amplitude):
        Cos(wt+-pi/2) x Sin(wt+-pi/2) => Sin(2wt+-pi) => Sin(2wt)
           Signal   x   Delayed   =>   constant phase at 2w

The phase locked loop U11 (4046) runs 16x carrier frequency; with associated
divide-by-16 U9 (40161) they lock onto U7 pin 4's double frequency signal,
providing a smooth recoveryd carrier at U9 pin 11.

end quote

it looks to me that the pll is pulled to the audio and not the audio to the
pll but i may be mistaking

73 de Andre PE1RDW

> -----Oorspronkelijk bericht-----
> Van: Darryl Smith [SMTP:vk2tds@ozemail.com.au]
> Verzonden: vrijdag 10 september 1999 7:05
> Aan: TAPR AO-16 APRS Special Interest Group
> Onderwerp: [ao16aprs] RE: Cheap Modem
>
> Hi there...
>
> If it is the design I am thinking of, STAY AWAY... The unit uses a digital
> PLL, and rectifies the incoming audio to put into the PLL... From memory
> it
> is about 3dB worse than any other design
>
> Darryl
>
> ---------
> Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
> Mobile Number 0412 929 634 [+61 4 12 929 634 International]
>
>
>
>
> ---
> You are currently subscribed to ao16aprs as: A.H.Schayk@arcadis.nl
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
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77. [ao16aprs] RE: Cheap Modem

From: "Darryl Smith" <vk2tds@ozemail.com.au>
Date: Sat, 11 Sep 1999 21:27:11 +1000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39019-1999.09.11-06.37.25--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>>From the jas-1 modem discription:
>The carrier recovery circuit used here is a digital "squaring loop"
>
>U4 (TL084 opamp) pins 2,3,1 is a limiter, which simply makes all subsequent
>signal processing digital.

And here is the problem. I have not seen the design of this modem for about
3 years, so what I am about to say is based on my memory.

The incoming signal is basically put through a 1 or 2 pole filter and then
limited... Or in other words rectified.

In english, the signal comes in from the radio, and goes through a low and
high pass filter. This removes some of the out of band noice. Whenever the
filtered signal is above 0V, it is high, whenever it is below 0V it is low.
The problem with this is that it is highly succeptable to noise... minor
variations in noise completely out of the normal frequency range will cause
the sigital signal to be time shifted, or to be noisy.

The receiver will work well for perfect signals, but the performance for
noisy signals is not good. To improve things the PLL needs to operate on the
analogue signal rather than the digital signal, or at least the input filter

needs to be tightened.

I suspect that a switched capacitor filter would provide far better
results...

As for the transmitting side... It is just as bad.... It uses a low pass
filter to shape the incoming digital stream after some digital processing.
Thus rather than becoming real sine waves, the transmitted signals are more
like capacitor charge and discharge curves...

>it looks to me that the pll is pulled to the audio and not the audio to the
>pll but i may be mistaking

>From memory this circuit also has an early/late detector to move the radio
up and down in frequency. Since the radio is SSB, this results in the audio
frequency moving up/down

Darryl VK2TDS

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78. [ao16aprs] satgate weekend sked

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Sat, 11 Sep 1999 09:24:52 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39024-1999.09.11-08.35.23--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning . I will have the satgate/igate running on the ao-16/lo19
passes today, and tomorrow. Remember you can monitor the traffic with your
aprs s/w. If you are able to send but not receive messages , just monitor
the igate to see the data stream with your aprs s/w or telnet to
www.aprs.net. I will be trying to send email via the satellite from my
boat, using pocketaprs.

73 Jeff kb2wqm

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79. [ao16aprs] Sat AM East pass

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 11 Sep 1999 11:30:25 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39034-1999.09.11-10.41.47--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

This AM pass is the only one I can work today. Saw my self ad-nausium,
and KB2WQM, N8ULD and one station logged on to the PACSAT , K4IL.

I sent several APRS messages and cant wait to get home to see if they got
through Jeff's gateway.

I still mostly just use dumb terminal mode, but remember, just type

:CALL   :message

where the call is padded to 9 spaces and it is a valid APRS message and
should get to the receipient!

Bob

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80. [ao16aprs] lo-19 aprs and N5ZNL

From: Builderick@aol.com
Date: Sat, 11 Sep 1999 14:05:02 EDT

To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@lists.tapr.org
Message-ID: <LYR833-39047-1999.09.11-13.15.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello group
Today following Lusat-19 and running aprs842
I finialy got to see a station posted on the screen. (he was using the sat
logo)
Station N5ZNL showed up just like it would with earth based aprs.
Only this time it was digi through the satellite.

COOL! I hope to join the fellows trying this on the satellite soon.

Rick KB0VBZ

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81. [ao16aprs] UI digipeating via AO16/LO19 (fwd)

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 12 Sep 1999 12:51:52 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39183-1999.09.12-12.03.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

For your APRS info, here is what I posted to AMSAT after Jeff's AO16
successes this weekend...

---------- Forwarded message ----------
Date: Sun, 12 Sep 1999 01:16:01 -0400 (EDT)
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: amsat-bb@AMSAT.Org

Maybe to help the Satellite community understand what we are trying to do
with APRS via satellites and these early tests on AO16/LO19 with UI
packets, it might be useful to think of it as "worldwide two-way LIVE
amateur message paging". Several things underlie this interest:

1) The Kenwood THD7 HT is capable of sending text messages from its
keyboard and receiving and displaying them on its LCD display. With the
MIR digipeater, we thus found that we could send and receive messages from
our SHirt pockets with rubber ducks.   Thus we HAVE the handheld amateur
satellite radio! Now, without MIR, we need another satellite.

2) We have a worldwide APRS informally linked Internet network that
distributes any packet heard ANYWHERE to EVERYWHERE. Kind of like
cellular phone systems. The internet links all the cells on the planet
together, while the users are all using their radios within their cell.
But with out any knowledge of how, they can communicate with anyone
anywhere simply by knowing their CALLsign.

3)   The IGates that link every cell into the internet are nothing
special! They are nothing more than ANYONE who happens to be running
APRS while he is Logged on to his ISP (Even if he is doing something
else!). THus, there are no special nodes, software, or Gateways.
Anyone and everyone can be a gateway at any time. Thus, as long as anyone
can be heard anywhere, he can communicate anywhere. Thus, as long as we
have at least ONE station on each continent listening to AO16/LO19, then
any messages via that satelite can go ANYWHERE on the planet within the
APRS infrastructure in real time.

4) Thus, the desire for a Satelite Digipeater to allow remote users who
are not near any of the terrestrial network, to send and receive messages
during a pass. Remember, in APRS, a MESSAGE is typically ONE LINE or so.
You can say a LOT in one line if you want to... As a UI packet, there is
NO connection, NO acks, NO timeouts, NO Queues. As long as you see your
one or two packets digipeated, then you can assume they got there...

5) Since APRS is a live two-way system, All of the above, assumes that the
recepient of a message has his radio on. In APRS there is no store-and-
forward. Messages are deliverd LIVE or not at all. With one exception.
A message can be addressed to "EMAIL" and a server written by WU2Z will
ACK the message and wrap it into an Email message for the internet.

Thus, today I received the following:

---------- Forwarded message ----------
Date: Sat, 11 Sep 1999 14:32:32 -0400 (EDT)

From: KB2WQM-1@unknown.net
To: wb4apr@amsat.org
Subject: APRS Message from KB2WQM-1

hello via pacsat

Message received by MacAPRS IGate station WU2Z
Located in NO BRUNSWICK, NJ
APRS path = KB2WQM-1>APS199,INTERNET TCP/IP

As you can see, Jeff, KB2WQM sent this from his boat using a conventional
2 meter FM radio, and OMNI mobile antenna, and a manchester or modified
TAPR-2 TNC. It was digipeated by AO16. It was monitored by an IGate
somewhere and injected into the worldwide APRS stream (TELNET to
199.227.86.221 port 23) There it would normally pop back out to RF at any
IGate that had heard me locally. But since he sent it to EMAIL, the WU2Z
server picked it up and Emailed it to me...

This is only an unusual example of APRS messaging. Normally he would have
just sent the message directly to my station (most APRS operators leave
their station on the air at all times). But here he decided to demo how
APRS messages can also be delivered via Email.

Unfortunately, without MIR, the only other digipeaters in space that
welcome APRS UI packets are AO16 and LO19. For now, this prevents the
Kenwood HT from being used since it does not have a manchester TNC.
But anyone with a TAPR-2 clone TNC and 2m FM mobile radio can make a $3
mod and transmit. We want to demonstrate this capability to encourage
more digipeaters in space for mobile/handheld two-way brief messaging.

I hope this paints the larger picture and helps explain where we are
trying to go. And despite what *used to be* very special hardware
requirements to operate the 1200 baud pacsats, Remember that NOW anyone
can transmit up to AO16/LO19 relatively simply and we only need a few
listening...

de WB4APR, Bob

For more info see http://web.usna.navy.mil/~bruninga/traknet.html

----
Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org

---
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82. [ao16aprs] Re: satgate weekend sked

From: "Henry Moseley" <hmose@sover.net>
Date: Sun, 12 Sep 1999 14:52:16 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39193-1999.09.12-14.03.43--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Jeff, I asked the questions below, but Mike couldn't answer the part
about the line you transmitted. How was it put together exactly. I'm sure
many want to know. Thanks, Henry

Henry,

Henry Moseley wrote:
>
> Did you get this be watching the telnet feed feed or did it come to you as
> Email from W2UZ?
> Was this done manually or automatically by W2UZ Igate??
> What was the line, character be character, that Jeff, KB2WQM sent to the
> satellite?
>

The message came directly to my email account, through the AMSAT alias
server. You'd have to ask Jeff exactly what he put in the message, but
he addressed it to me via EMAIL, which causes the WU2Z server to
intercept and forward the message to the internet.

73, Mike in Fort Myers

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

83. [ao16aprs] Test plan for APRS via AO16/LO19

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 12 Sep 1999 15:22:49 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39199-1999.09.12-14.34.06--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

If you are transmitting to AO16, consider the following suggestion:

Transmit APRS messages to yourself. If they get through the whole
PACSAT-PAC-GATE-APRSSERVE-IGATE-DIGI system, then you will get a copy via
the terrestrial 144.39 system!

I wrote a quick program this afternoon that will send me a message every
20 seconds when AO16 is overhead (from work). The program inserts a time
stamp in the message. If my home station gets them, then I will see them
at home tonight... and know that it all worked.

You might also send messages to others you might want to inspire to get
involved. Today I also sent messages via PACSAT to all the other authors
of APRS. Brent Hildebrand (APRS+SA) got his copies and QSL'ed via EMAIL.

If you know of some AMSAT operator that has no interest in APRS then you
might send him a packet to EMAIL so that APRS will deliver it to him...

Let them see the power of the force....

:-)

Bob
P.S. remember you can even load a message in a BText and just let a TNC do
the work...

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

84. [ao16aprs] RE: Cheap Modem

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 12 Sep 1999 22:03:35 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39277-1999.09.12-21.31.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So, can JAS-1 (FUJI20) also act as an DIGIpeater if they put it in JD
mode? Just curious. If this is so, then thats anotehr possible
digipeater for us... But as a voice satellite, I doubt we will ever get
it...

bob

On Sat, 11 Sep 1999, Darryl Smith wrote:

> >>From the jas-1 modem discription:
> >The carrier recovery circuit used here is a digital "squaring loop"
> >
> >U4 (TL084 opamp) pins 2,3,1 is a limiter, which simply makes all subsequent
> >signal processing digital.
>
> And here is the problem. I have not seen the design of this modem for about
> 3 years, so what I am about to say is based on my memory.
>
> The incoming signal is basically put through a 1 or 2 pole filter and then
> limited... Or in other words rectified.
>

> In english, the signal comes in from the radio, and goes through a low and
> high pass filter. This removes some of the out of band noice. Whenever the
> filtered signal is above 0V, it is high, whenever it is below 0V it is low.
> The problem with this is that it is highly succeptable to noise... minor
> variations in noise completely out of the normal frequency range will cause
> the sigital signal to be time shifted, or to be noisy.
>
> The receiver will work well for perfect signals, but the performance for
> noisy signals is not good. To improve things the PLL needs to operate on the
> analogue signal rather than the digital signal, or at least the input filter
> needs to be tightened.
>
> I suspect that a switched capacitor filter would provide far better
> results...
>
> As for the transmitting side... It is just as bad.... It uses a low pass
> filter to shape the incoming digital stream after some digital processing.
> Thus rather than becoming real sine waves, the transmitted signals are more
> like capacitor charge and discharge curves...
>
> >it looks to me that the pll is pulled to the audio and not the audio to the
> >pll but i may be mistaking
>
> >From memory this circuit also has an early/late detector to move the radio
> up and down in frequency. Since the radio is SSB, this results in the audio
> frequency moving up/down
>
> Darryl VK2TDS
>
>
> ---
> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

85. [ao16aprs] Re: PK232 PSK Transmit

From: Cliff Buttschardt <cbuttsch@slonet.org>
Date: Mon, 13 Sep 1999 05:54:18 +0000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39324-1999.09.13-01.51.26--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi all. Has the PK232 ever been sucessfully converted to PSK? Seems
there were a few traps found here in these messages that would be well
to avoid!!
Cliff K7RR

Tim Cunningham wrote:
>
> I am working on it as time permits and will release any results when
> it is finalized. I have one circuit working, but I am trying to minimize
> the parts required. There are two ways to approach the problem:
>
> 1. Minimal parts using existing TNC circuitry.
>
> 2. Plug-in board for the modem disconnect header.
>
> Is there anybody else working on this?
>
> If you see my beacon from the Gulf sometime this weekend, you
> will know that I will have option #1 completed.
>
> I am using a TNC-2 compatible unit. My first attempt failed with the
> simple XOR of the TXC (1200 hz) and TXD. A quick peek on a
> scope revealed some of the trouble as well as listening to the

> output which was the first clue. Synchronization of the data and clock
> is the key before applying the signals to the XOR circuit. Since my
> time is extremely limited, I work on this in about 10 minute time slots
> each day on the weekend.
>
> 73's,
>
> Tim - N8DEU
>
> -----Original Message-----
> From: Henry Moseley <hmose@sover.net>
> To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
> Date: Friday, September 03, 1999 8:09 AM
> Subject: [ao16aprs] Re: PK232 PSK Transmit
>
> >Did Pat McGrath ever get the info requested on how to make the $3.00
> >modification to the PK232? Has anyone first hand info or comments on the
> >specifics of this modification?? Has anyone actually done this??
> >
> >Thanks, Henry KA1RRT@amsat.org
> >
> >
> >---
> >You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
> >To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
> >
>
> ---
> You are currently subscribed to ao16aprs as: CBUTTSCH@SLONET.ORG
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

86. [ao16aprs] email via pacsat

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Mon, 13 Sep 1999 09:43:54 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39360-1999.09.13-09.38.56--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Henry Moseley wrote:

 What was the line, character be character, that Jeff, KB2WQM sent to the
satellite?
 test2

Message received by MacAPRS IGate station WU2Z
Located in NO BRUNSWICK, NJ
APRS path = KB2WQM-9>LUSAT-1*>WIDE>WIDE>APP098
tst

Message received by MacAPRS IGate station WU2Z
Located in NO BRUNSWICK, NJ
APRS path = KB2WQM-9>PACSAT-1*>WIDE>WIDE>APP098

It's real simple,all I did was send a message using my PalmPilot and
PocketAPRS addressed to email. the path I used was
pacsat-1,wide,wide, or lusat-1,wide,wide. I sent the message about 20 times,
10 or so made it. PocketAPRS is great for this as you can, before the pass
pre stack the outgoing messages. When the pass starts tap beachball, then
tap transmit messages. All the messages will be transmitted as one packet. I
sent 3 messages last night that way with a 50 % + success rate. The Cool
thing is that the dup messages don't get emailed. I'm not sure where that
happens, probably at WU2Z. Of course someone has to have the pacgate up when
this is happening. This is easily done with my existing 50 watt mobile ,
Manchester encoding tnc, and standard omni antenna.

73 Jeff kb2wqm

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87. [ao16aprs] Re: PK232 PSK Transmit

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Mon, 13 Sep 1999 08:37:12 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39361-1999.09.13-09.39.24--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have a simple modification working with the TAPR-2 TNC clone
that I am documenting at the moment.

Since I do not have a schematic for the PK232 I cannot comment
on that model. If anybody has a schematic for a PK232, please
send it and I will take a look at it. If you can scan the schematic
and e-mail it, that would be great!

73's,

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Cliff Buttschardt <cbuttsch@slonet.org>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Monday, September 13, 1999 1:41 AM
Subject: [ao16aprs] Re: PK232 PSK Transmit

>Hi all. Has the PK232 ever been sucessfully converted to PSK? Seems
>there were a few traps found here in these messages that would be well
>to avoid!!
>Cliff K7RR
>
>Tim Cunningham wrote:
>>
>> I am working on it as time permits and will release any results when
>> it is finalized. I have one circuit working, but I am trying to minimize
>> the parts required. There are two ways to approach the problem:
>>
>> 1. Minimal parts using existing TNC circuitry.
>>
>> 2. Plug-in board for the modem disconnect header.
>>
>> Is there anybody else working on this?
>>
>> If you see my beacon from the Gulf sometime this weekend, you
>> will know that I will have option #1 completed.
>>
>> I am using a TNC-2 compatible unit. My first attempt failed with the
>> simple XOR of the TXC (1200 hz) and TXD. A quick peek on a
>> scope revealed some of the trouble as well as listening to the
>> output which was the first clue. Synchronization of the data and clock
>> is the key before applying the signals to the XOR circuit. Since my
>> time is extremely limited, I work on this in about 10 minute time slots
>> each day on the weekend.
>>
>> 73's,
>>
>> Tim - N8DEU
>>
>> -----Original Message-----
>> From: Henry Moseley <hmose@sover.net>
>> To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
>> Date: Friday, September 03, 1999 8:09 AM
>> Subject: [ao16aprs] Re: PK232 PSK Transmit
>>
>> >Did Pat McGrath ever get the info requested on how to make the $3.00
>> >modification to the PK232? Has anyone first hand info or comments on the
>> >specifics of this modification?? Has anyone actually done this??
>> >
>> >Thanks, Henry KA1RRT@amsat.org
>> >
>> >
>> >---
>> >You are currently subscribed to ao16aprs as:
tim_cunningham@mindspring.com
>> >To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>> >

>>
>> ---
>> You are currently subscribed to ao16aprs as: CBUTTSCH@SLONET.ORG
>> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

88. [ao16aprs] Re: email via pacsat

From: "Henry Moseley" <hmose@sover.net>
Date: Mon, 13 Sep 1999 16:29:14 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39416-1999.09.13-15.40.37--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Just

APRS path = KB2WQM-9>PACSAT-1*>WIDE>WIDE>APP098???
or is it "PACSAT-1,WIDE,WIDE,EMAIL,KF4FDJ@AMSAT.ORG?????
Doesn't the word "email" and the destination email address have to be in
the line as well?

Where does one get a copy of PocketAPRS?

I'm trying to figure out how to parse the line.

Again, congratulations

Henry Moseley
KA1RRT

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

89. [ao16aprs] Re: PK232 PSK Transmit

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 13 Sep 1999 19:07:13 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39439-1999.09.13-18.18.09--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, 13 Sep 1999, Tim Cunningham wrote about PSK mod to the PK232.

> I have a simple modification working with the TAPR-2 TNC clone
> that I am documenting at the moment.

The reason this works on the TAPR-2 is because there is a D-Flip-Flop in
the schematic that syncs up the clock and data. The Kantronics for
example does this interenally in the CPU, I think and so the external 1200
hz clock is not synced to the data. AN external PLL would be required to
do this and it is not worth the trouble.

Steve Bible designed a circuit to do it, but it was many chips.

Thats why I stuck with the simple mod for the TNC-2 clones...

Bob

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90. [ao16aprs] WIDE,WIDE needed?

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 13 Sep 1999 19:11:07 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39440-1999.09.13-18.21.55--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

On Mon, 13 Sep 1999, Jeff Griffin wrote:

> It's real simple,all I did was send a message using my PalmPilot and
> PocketAPRS addressed to email. the path I used was pacsat-1,wide,wide,
> or lusat-1,wide,wide....

By the way, I think we can all drop the ...WIDE,WIDE now, since all the
injection-into-the-internet is being done directly by Mac/WinAPRS or
APRS+SA, so there is no need for the ...wide,wide.

But if anyone is doing it differently and IS actually digipeating back to
144.39 directly, let us know. Otherwise, the wides do nothing but waste
bandwidth?

Bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

91. [ao16aprs] Re: email via pacsat

From: David Nesting <david@fastolfe.net>
Date: Mon, 13 Sep 1999 18:47:49 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39444-1999.09.13-18.59.01--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Mon, Sep 13, 1999 at 04:29:14PM -0400, Henry Moseley wrote:
   : Just
   :
   : APRS path = KB2WQM-9>PACSAT-1*>WIDE>WIDE>APP098???
   : or is it "PACSAT-1,WIDE,WIDE,EMAIL,KF4FDJ@AMSAT.ORG?????
   : Doesn't the word "email" and the destination email address have to be in
   : the line as well?

It's probably just a standard user-to-user APRS message, destined to the
"user" of "EMAIL". E.g.:

KB2WQM-9>PACSAT-1,WIDE,WIDE:EMAIL   :KF4FDJ@AMSAT.ORG test message

   : I'm trying to figure out how to parse the line.

You may wish to check out the actual APRS message protocol. The URL I
use for reference is:

http://www.netrox.net/~sdimse/vm/dos/PROTOCOL.HTM

There may be another suggested URL, but this one seems to have everything
I need.

Good luck.

Dave

--
 == David Nesting WL7RO Fastolfe david@fastolfe.net http://fastolfe.net/ ==

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

92. [ao16aprs] RE: WIDE,WIDE needed?

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Tue, 14 Sep 1999 10:01:28 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39501-1999.09.14-03.13.10--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

> -----Original Message-----
> From: Bob Bruninga [SMTP:bruninga@nadn.navy.mil]
> Sent: Tuesday, September 14, 1999 1:11 AM
> To: TAPR AO-16 APRS Special Interest Group
> Subject: [ao16aprs] WIDE,WIDE needed?
>
> On Mon, 13 Sep 1999, Jeff Griffin wrote:

>
> > It's real simple,all I did was send a message using my PalmPilot and
> > PocketAPRS addressed to email. the path I used was pacsat-1,wide,wide,
> > or lusat-1,wide,wide....
>
> By the way, I think we can all drop the ...WIDE,WIDE now, since all the
> injection-into-the-internet is being done directly by Mac/WinAPRS or
> APRS+SA, so there is no need for the ...wide,wide.
>
> But if anyone is doing it differently and IS actually digipeating back to
> 144.39 directly, let us know. Otherwise, the wides do nothing but waste
> bandwidth?
>
I haven't got my modem ready yet (to busy to go out and get the parts) but
the software side is ready to digi it back to 144.8625 so in europe it is
stil a good idea to include WIDE,WIDE.

I've got my I-GATE up and running using aprsd 2.0.10 (using a dailup line so
no fultime yet) but some poeple have discoverd it already (hoi Art), poeple
wanting to give it a try with messaging give me a call and i'll tell you who
are online at that time.

I'll be in Wheinheim UKW tagung next saterday so i won't be online with the
gate than but i'll take my porto with me and will be listening in 144.8625
for aprs and 430.2375 with ctcss of 71.9 Hz.

hope to meet some european aprs there.

> Bob
>
73 de Andre PE1RDW

> ---
> You are currently subscribed to ao16aprs as: A.H.Schayk@arcadis.nl
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

93. [ao16aprs] PSK Standard for Sat work?

From: "Darryl Smith" <vk2tds@ozemail.com.au>
Date: Wed, 15 Sep 1999 15:15:37 +1000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-39649-1999.09.15-00.25.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am interested... Which standard is used on satellites. Is it a CCITT or a
BELL series standard for the modem?

Darryl

Darryl Smith, VK2TDS POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

94. [ao16aprs] AO16/LO19 Uplink w ANY PC!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 16 Sep 1999 20:55:27 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>, amsat-bb@amsat.org
Message-ID: <LYR833-39988-1999.09.16-20.08.03--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I can't believe I didnt think of this before! But since Manchester AX.25
for the UPLINK to AO16/LO19 using any FM 2m radio is a SQUARE WAVE, you
dont even need a sound card to generate it! Thus, a Resistor and
capacitor connected to the DTR line in your serial port to your Microphone
jack will let you uplink to AO16/LO19 easily.

*** IF *** someone will write the code...

It doesnt even need to be a full AX.25 implementation. Since all you have
to generate are UI packets!   Very simple...

Anyone want to take a crack at this? I could glue it into APRS along with
some satelite tracking and we would have a Mobile Satellite
communicator... FOR ANY 2m FM equiped mobile.

de WB4APR, Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

95. [ao16aprs] RE: AO16/LO19 Uplink w ANY PC!

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Fri, 17 Sep 1999 09:02:50 +0200
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40056-1999.09.17-02.15.04--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

with a little more afford it can be done with existing programs
it takes a bacom driver (tfpcx) and a program that runs with it (tsthost gp
sp agw etc.)
all you need is a 1200hz clock as this is not on the serial port and you can
use the $3 mod for a tnc2

73 de Andre PE1RDW
> -----Original Message-----
> From: Bob Bruninga [SMTP:bruninga@nadn.navy.mil]
> Sent: Friday, September 17, 1999 2:55 AM
> To: TAPR AO-16 APRS Special Interest Group
> Cc: TAPR APRS Special Interest Group; amsat-bb@amsat.org
> Subject: [ao16aprs] AO16/LO19 Uplink w ANY PC!
>
> I can't believe I didnt think of this before! But since Manchester AX.25
> for the UPLINK to AO16/LO19 using any FM 2m radio is a SQUARE WAVE, you
> dont even need a sound card to generate it! Thus, a Resistor and
> capacitor connected to the DTR line in your serial port to your Microphone
> jack will let you uplink to AO16/LO19 easily.
>
> *** IF *** someone will write the code...
>
> It doesnt even need to be a full AX.25 implementation. Since all you have
> to generate are UI packets!   Very simple...
>
> Anyone want to take a crack at this? I could glue it into APRS along with
> some satelite tracking and we would have a Mobile Satellite
> communicator... FOR ANY 2m FM equiped mobile.
>
> de WB4APR, Bob
>
>
>
> ---
> You are currently subscribed to ao16aprs as: A.H.Schayk@arcadis.nl
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

96. [ao16aprs] AO16 recieve

From: "Anna Carolyn Osborn" <acosborn@wireco.net>
Date: Fri, 17 Sep 1999 16:03:53 -0000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40118-1999.09.17-11.15.09--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Group,Is there anyone out there using a Yaesu 736 and a PacComm PSK1-T?
Can't get the signal from the tnc. Help! 73
Anna Osborn   ws4z@amsat.org
Amsat LM 1298A

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org

To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

97. [ao16aprs] Re: AO16/LO19 Uplink w ANY PC!

From: John W Wilson <z004391b@bc.seflin.org>
Date: Fri, 17 Sep 1999 12:46:41 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40123-1999.09.17-11.58.02--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Bob,
Where did you find all the room in your APRS program to put all these
options? I seem to remember, a few years ago, that you had to remove
something to add something. New compiler? I have BC7 which does a good
job, but didn't think Microsoft came out with a newer one. 73,

John W. Wilson, KN4HX
z004391b@bcfreenet.seflin.lib.fl.us

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

98. [ao16aprs] Re: AO16/LO19 Uplink w ANY PC!

From: John W Wilson <z004391b@bc.seflin.org>
Date: Fri, 17 Sep 1999 12:53:13 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40124-1999.09.17-12.04.15--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Sorry, all, I thought these messages were getting to WB4APR alone.

John W. Wilson, KN4HX
z004391b@bcfreenet.seflin.lib.fl.us

On Fri, 17 Sep 1999, John W Wilson wrote:

> Hi Bob,
> Where did you find all the room in your APRS program to put all these
> options? I seem to remember, a few years ago, that you had to remove
> something to add something. New compiler? I have BC7 which does a good
> job, but didn't think Microsoft came out with a newer one. 73,
>
>
> John W. Wilson, KN4HX
> z004391b@bcfreenet.seflin.lib.fl.us
>
>
>
> ---
> You are currently subscribed to ao16aprs as: kn4hx@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

99. [ao16aprs] Re: AO16/LO19 Uplink w ANY PC!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 17 Sep 1999 13:19:20 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40129-1999.09.17-12.30.24--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 17 Sep 1999, John W Wilson wrote:

> Hi Bob,
> Where did you find all the room in your APRS program to put all these
> options? I seem to remember, a few years ago, that you had to remove
> something to add something.

Nope, I solved it by still adding everything to APRSdos and just making
the station arrays smaller to fit. Then providing APRSmax which

eliminates all the little-used bells and whistles to make room for larger
arrays. THus, use APRSmax for routine operations in a busy area where you
want 250 stations, and use APRSdos in all others... It will still hold up
to 96 stations..

Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

100. [ao16aprs] Satellite GPS tracking

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 19 Sep 1999 11:32:37 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40440-1999.09.19-10.46.17--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In addition to the APRS mobile position reporting experiments being
conducted on AO16/LO19, There is a satellite in orbit that is transmitting
its GPS coordinates in real time. I recevied this report from KB0VBZ:

---------- Forwarded message ----------
From: Builderick@aol.com
Also of interest is POSAT. If you can recieve it. It shows its lat & long
in a <UI> frame...

My notes show POSAT is just outside the amateur band on 4XX MHZ using
normal 9600 baud packets... Anyone have the exact frequency?

de WB4APR, Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

101. [ao16aprs] Re: Satellite GPS tracking

From: Jim White <jim@coloradosatellite.com>
Date: Sun, 19 Sep 1999 09:46:42 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40443-1999.09.19-11.03.53--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

429.950
jw

At 11:32 AM 9/19/99 -0400, you wrote:
>In addition to the APRS mobile position reporting experiments being
>conducted on AO16/LO19, There is a satellite in orbit that is transmitting
>its GPS coordinates in real time. I recevied this report from KB0VBZ:
>
>---------- Forwarded message ----------
>From: Builderick@aol.com
>Also of interest is POSAT. If you can recieve it. It shows its lat & long
>in a <UI> frame...
>---------------------------
>
>My notes show POSAT is just outside the amateur band on 4XX MHZ using
>normal 9600 baud packets... Anyone have the exact frequency?
>
>de WB4APR, Bob
>
>
>
>
>---
>You are currently subscribed to ao16aprs as: whitejj@uswest.net
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org

To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

102. [ao16aprs] Re: Satellite GPS tracking

From: Builderick@aol.com
Date: Sun, 19 Sep 1999 14:59:18 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40485-1999.09.19-14.10.38--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

In a message dated 09/19/1999 9:35:42 AM Mountain Daylight Time,
bruninga@nadn.navy.mil writes:

<<
 My notes show POSAT is just outside the amateur band on 4XX MHZ using
 normal 9600 baud packets... Anyone have the exact frequency?
  >>
==========snip==========
Bob I have 429.950 fm as the center frequency 9k6 baud programed into wisp
for posat.

Not any traffic to the usa. It is a health and welfare satellite for 3rd
world countrys. It does use pb and pg format. So wisp is usable.
I use a modifided radio shack scanner pro-2044 , hooking up the input to the
kpc9612 on one of the ic legs. It is easy to find this point on an older
style scanner..

Rick KB0VBZ

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

103. [ao16aprs] AO16 pass Sunday

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 19 Sep 1999 18:20:21 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40520-1999.09.19-17.31.59--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have my station now on automatic and today I noticed that it got 35
messages through to the Internet APRS system via KB2WQMM's PACSAT gateway
(I presume). My station cycles through about 15 callsigns, sending a new
message once every 11 seconds. If everything works, those people will all
receive those messages APRS live via the internet...

By the way, it is trivial to write a program to go to 11 second
transmissions byt only using 2 numbers. One number (P) is the PERIOD of
PACSAT, and the other is the LONGITUDE increment (L). All you do is every
P period, you increment a LONGITUDE accumulator (modulo 360). WHenever
the result is within say 30 degrees of your longitude, then you go into
transmit duty cycle for 15 minutes....

I will work on this more and present at DCC...

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

104. [ao16aprs] Pacsat Test (fwd)

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sun, 19 Sep 1999 18:26:48 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40521-1999.09.19-17.38.24--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Looks like my test message via PACSAT arrived at KH2Z's via two Gateways!

---------- Forwarded message ----------
Date: Sun, 12 Sep 1999 09:37:49 -0700
From: Brent Hildebrand <bhildebrand@earthlink.net>
To: Bob Bruninga <bruninga@nadn.navy.mil>
Subject: Pacsat Test

APRS+SA Data:

WB4APR-8
TEST VIA PACSAT!
G:APRSM,W6KRW-10,NW6H-10*/1},APRS,TCPIP,WB6ZSU-3*
1999/09/12 16:30:15

Who: WB4APR-8
What: TEST VIA PACSAT!
How: G:APRSM,W6KRW-10,NW6H-10*/1},APRS,TCPIP,WB6ZSU-3*
When: 1999/09/12 16:30:15

Clarification:
How: G:APRSM,W6KRW-10,NW6H-10*/1},APRS,TCPIP,WB6ZSU-3*
G: means that packet was received via an Internet Gateway

APRSM,W6KRW-10,NW6H-10*/1
Heard via APRSM (APRServe To field), via the real digis KRW and H-10.
/1 means it was Port-1 for APRS+SA's KISS mode driver. (Yes, KISS works)

APRS,TCPIP,WB6ZSU-3
The originating station's pseudo path. APRS (aprsdos - no version number?),
received via TCPIP at WB6ZSU-3.

FYI
Brent KH2Z

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

105. [ao16aprs] Re: Pacsat Test (fwd)

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Sun, 19 Sep 1999 23:41:34 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40571-1999.09.19-23.53.15--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I am planning on taking my Traknet mobile on the road tomorrow
transmitting from some APRS black holes on the map (area with
no 2M coverage). This test will demonstrate a 20w mobile with a
5/8w antenna in action.

A GPS will be connected to my MFJ 1270 (TAPR-2 compatible)
TNC with a $2 modification for Manchester FM on the uplink. If
anybody sees my mobile pop up somewhere around the country,
let me know.

I should have it activated for the 15:46z and 17:25z passes on
Monday morning.

Thanks,

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Sunday, September 19, 1999 5:27 PM
Subject: [ao16aprs] Pacsat Test (fwd)

>Looks like my test message via PACSAT arrived at KH2Z's via two Gateways!
>
>---------- Forwarded message ----------
>Date: Sun, 12 Sep 1999 09:37:49 -0700
>From: Brent Hildebrand <bhildebrand@earthlink.net>
>To: Bob Bruninga <bruninga@nadn.navy.mil>
>Subject: Pacsat Test
>
>APRS+SA Data:

>WB4APR-8
>TEST VIA PACSAT!
>G:APRSM,W6KRW-10,NW6H-10*/1},APRS,TCPIP,WB6ZSU-3*
>1999/09/12 16:30:15
>
>
>Who: WB4APR-8
>What: TEST VIA PACSAT!
>How: G:APRSM,W6KRW-10,NW6H-10*/1},APRS,TCPIP,WB6ZSU-3*
>When: 1999/09/12 16:30:15
>
>Clarification:
>How: G:APRSM,W6KRW-10,NW6H-10*/1},APRS,TCPIP,WB6ZSU-3*
>G: means that packet was received via an Internet Gateway
>
>APRSM,W6KRW-10,NW6H-10*/1
>Heard via APRSM (APRServe To field), via the real digis KRW and H-10.
>/1 means it was Port-1 for APRS+SA's KISS mode driver. (Yes, KISS works)
>
>APRS,TCPIP,WB6ZSU-3
>The originating station's pseudo path. APRS (aprsdos - no version
number?),
>received via TCPIP at WB6ZSU-3.
>
>FYI
>Brent KH2Z
>
>
>
>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

106. [ao16aprs] 1200 Bd PACSAT acks

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 20 Sep 1999 12:20:45 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>, amsat-bb@amsat.org
Message-ID: <LYR833-40671-1999.09.20-11.33.18--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 19 Sep 1999, Tim Cunningham wrote:

> I am planning on taking my Traknet mobile on the road [Monday with]
> A GPS connected to my MFJ 1270 TNC with a $2 modification for Manchester
> FM on the uplink on the 15:46z and 17:25z passes...

Tim, I didnt see ya on the first pass, but I did see the following. It
shows that the KB2WQM gateway was working and took my uplink messages,
digipeated via PACSAT and delivered them via the internet to WU2Z and that
his ACK came back by the reverse path! Thus demonstrating end-around
real-time messaging via a 1200 baud Pacsat linked into the worldwide
APRServe system.

Here were the packets recorded:

WB4APR-8>APRS,PACSAT-1*::WU2Z   :Testing Traknet Via PACSAT-1 11:48:25{1

KB2WQM-1>FM29PE,PACSAT-1*:}WU2Z>APM327,TCPIP,KB2WQM-1*::WB4APR-8 :ack1

de WB4APR, Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

107. [ao16aprs] Re: Satellite GPS tracking

From: Clifford Buttschardt <cbuttsch@slonet.org>
Date: Mon, 20 Sep 1999 10:12:35 -0700 (PDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40681-1999.09.20-12.24.06--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun 19 Sep 1999 Builderick@aol.com wrote:

> ==============snip=============
> Bob I have 429.950 fm as the center frequency 9k6 baud programed into wisp
> for posat.

I would like to print this signal if at all possible using a Kenwood
TS 811A transceiver. Do any of you know the conversion to allow this
radio to receive below 430.000 KHz? Cliff K7RR

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

108. [ao16aprs] Re: 1200 Bd PACSAT acks

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Mon, 20 Sep 1999 22:42:17 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <amsat-bb@amsat.org>
Message-ID: <LYR833-40771-1999.09.20-23.14.40--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>Tim, I didnt see ya on the first pass, but I did see the following. It

Ouch! I found bad solder joint.... It was working fine last night
before the vibration test on the pavement....

I pulled off the road somehere between Tuscaloosa and Meridian
and discovered what was coming out of my TNC was a 1200 hz
tone with no data. A few hours later I found the problem to be a
poor solder joint and got it working again for a pass this evening.

I will try again during the 1655z pass of AO-16 on Tuesday morning
and see how it goes.

73's

Tim - N8DEU

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

109. [ao16aprs] Re: ao16aprs digest: September 20, 1999

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Tue, 21 Sep 1999 09:04:16 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40834-1999.09.21-08.14.33--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning everyone. I will have the pacgate up today also. I'm having a
problem with my lower back and have been out of work for several days. I'm
glad to have something to do, I will monitor most of the passes. Does anyone
have a schematic for the tnc-2 Manchester encoding mod? If so please mail it
to me.

73 Jeff kb2wqm

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

110. [ao16aprs] IO-26 joins APRS!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 21 Sep 1999 15:16:15 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: aprsnews@tapr.org
Message-ID: <LYR833-40886-1999.09.21-14.28.19--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

We now have three "APRS" satellites!

---------- Forwarded message ----------
From: Alberto E. Zagni
To: amsat-bb@AMSAT.Org

ITAMSAT IO-26 status 21/9/99

Nearing it's 6th year in orbit (IO-26 was launched September 1993)
ground controller IK2XRO and IW2EGC reloaded the high level code IHT and
turned on the 435,822 MHz PSK trasmitter.
Analysis of the telemetry showed an healty satellite with the battery
fully charged after 4 months of stand-by in MBL (safe) mode.
A WOD (Whole Orbit Data) survey will be started during tonight pass,
collecting data on array current, battery voltage and onboard temperature.
Following the WOD collection, we plan to activate the digipeater function,
and experiment using the APRS system.

Best regards
Alberto E. Zagni - I2KBD
ITAMSAT Project Manager

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

111. [ao16aprs] Re: ao16aprs digest: September 20, 1999

From: "KF4FDJ (Mike in Fort Myers)" <seven77@gate.net>
Date: Tue, 21 Sep 1999 16:14:55 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40902-1999.09.21-15.26.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

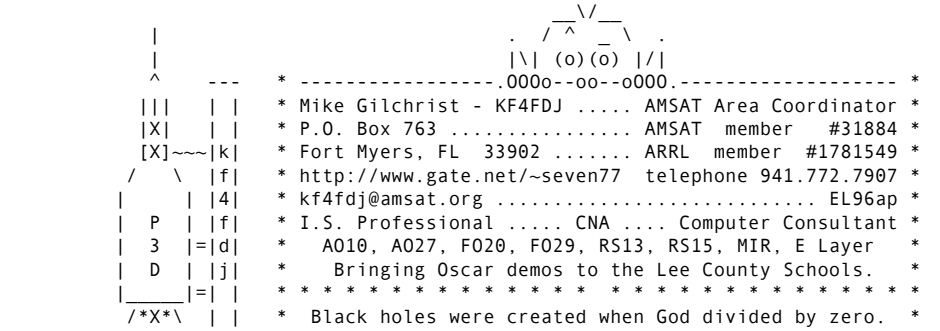
Just got back from the movies with the kids. They called off school,
again, because of tropical storm Harvey. I don't know what happened,
but the skies are blue and the birds are singing.

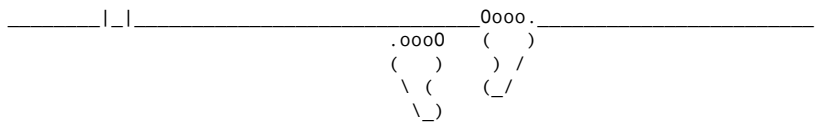
In case you didn't get it yet, here's the wiring diagram.

73, Mike

Jeff Griffin wrote:
>
> Good morning everyone. I will have the pacgate up today also. I'm having a
> problem with my lower back and have been out of work for several days. I'm
> glad to have something to do, I will monitor most of the passes. Does anyone
> have a schematic for the tnc-2 Manchester encoding mod? If so please mail it
> to me.
>
> 73 Jeff kb2wqm
>
> ---
> You are currently subscribed to ao16aprs as: kf4fdj@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

--


__\/__
. / ^ _ \ .
|\| (o)(o) |/|
.OOOo--oo--oOOO.
* Mike Gilchrist - KF4FDJ ..... AMSAT Area Coordinator *
* P.O. Box 763 ..... AMSAT member #31884 *
* Fort Myers, FL 33902 ..... ARRL member #1781549 *
* http://www.gate.net/~seven77 telephone 941.772.7907 *
* kf4fdj@amsat.org ..... EL96ap *
* I.S. Professional ..... CNA .... Computer Consultant *
* AO10, AO27, FO20, FO29, RS13, RS15, MIR, E Layer *
* Bringing Oscar demos to the Lee County Schools. *
* Black holes were created when God divided by zero. *



[Attachment: manchester.txt; text/plain; 1,473 bytes]

112. [ao16aprs] Re: IO-26 joins APRS!

From: "jbblack@mindspring.com" <ks4aw@amsat.org>
Date: Tue, 21 Sep 1999 18:30:07 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40923-1999.09.21-18.42.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

So I can set it up in WiSP, can you give the broadcast and bbs callsigns?

Many thanks,
Joel

OM: Joel B. Black, KS4AW   XYL: Kristie H. Black, KF4CHN
Eutaw, AL.............EM62bv   kahblack@mindspring.com
AMSAT member #32589
jbblack@mindspring.com
ks4aw@amsat.org
AO-27, FO-20, KO-25, UO-22
----- Original Message -----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Cc: <aprsnews@tapr.org>
Sent: Tuesday, September 21, 1999 2:16 PM
Subject: [ao16aprs] IO-26 joins APRS!

> We now have three "APRS" satellites!
>
> ---------- Forwarded message ----------
> From: Alberto E. Zagni
> To: amsat-bb@AMSAT.Org
>
> ITAMSAT IO-26 status 21/9/99
>
> Nearing it's 6th year in orbit (IO-26 was launched September 1993)
> ground controller IK2XRO and IW2EGC reloaded the high level code IHT and
> turned on the 435,822 MHz PSK trasmitter.
> Analysis of the telemetry showed an healty satellite with the battery
> fully charged after 4 months of stand-by in MBL (safe) mode.
> A WOD (Whole Orbit Data) survey will be started during tonight pass,
> collecting data on array current, battery voltage and onboard temperature.
> Following the WOD collection, we plan to activate the digipeater function,
> and experiment using the APRS system.
>
> Best regards
> Alberto E. Zagni - I2KBD
> ITAMSAT Project Manager
>
>
> ---
> You are currently subscribed to ao16aprs as: ks4aw@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

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113. [ao16aprs] Baycom modem mod?

From: "KF4FDJ (Mike in Fort Myers)" <seven77@gate.net>
Date: Tue, 21 Sep 1999 19:57:29 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-40941-1999.09.21-19.11.56--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

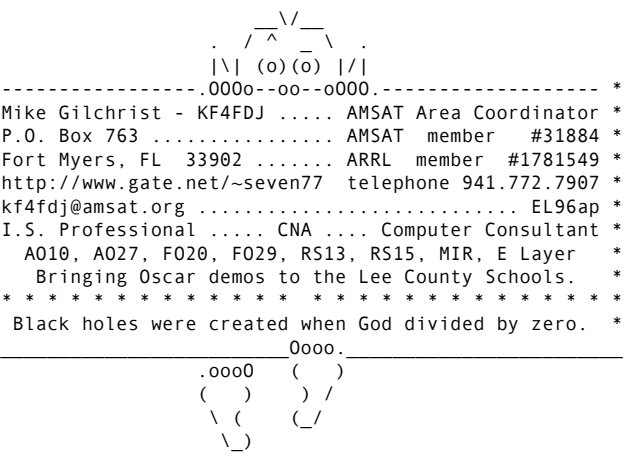
Good evening,

I am curious if anyone has managed to modify the Baycom modems and/or
associated software for Manchester encoding? It seems with the sub $70
price tag, they would be an excellent entry level modem for APRS uplink
to the pacsats.

I have one I used for a while with an HT and a palmtop computer. I have
an under used FT5100 I'd dedicate to the task if the modem mod was
available.

Thanks for "listening."

73, Mike in Fort Myers, FL


* Mike Gilchrist - KF4FDJ ..... AMSAT Area Coordinator *
* P.O. Box 763 ..... AMSAT member   #31884 *
* Fort Myers, FL 33902 ..... ARRL member #1781549 *
* http://www.gate.net/~seven77 telephone 941.772.7907 *
* kf4fdj@amsat.org ..... EL96ap *
* I.S. Professional ..... CNA .... Computer Consultant *
*   AO10, AO27, FO20, FO29, RS13, RS15, MIR, E Layer   *
*   Bringing Oscar demos to the Lee County Schools.   *
* Black holes were created when God divided by zero. *

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114. [ao16aprs] io-26 callsigns

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Wed, 22 Sep 1999 07:08:26 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41063-1999.09.22-06.19.20--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good morning , I saw itmsat-1 for the digi, try itmsat-11 broadcast, and
itmsat-12 for the BBS , using the naming convention of the other pacsats.

73 Jeff kb2wqm

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115. [ao16aprs] tnc's for tracknet

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Wed, 22 Sep 1999 18:37:19 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41145-1999.09.22-17.48.55--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good evening. Been home with a back problem, didn't have a problem for 50
years, but now all of a sudden I do. Anyway I've been researching tnc's for
Tracknet use. I've been working with PacComm on the Pico Packet but nogo.
here is last reply from PacComm...

The signal you need is not available. There is a pin which it could appear
at if the firmware told it to be there. We never did that in our code since
the 3105 modem does not need a clock signal on transmit. Guess there isn't a
way for this simple mod to work.
Gwyn

Bummer. That would of been a nice setup , the Pico Packet with the
Palmpilot. I purchased an MFJ 1270c new to evaluate, and I also have a kpc-3
ver 5.0 F/W used on the way. Did anyone work on these tnc's yet? If so send
me a schematic with the mod. I f I get the KPC-3 running , I plan on
returning the 1270c unopened.only need one of these. On the PACGATE, if
anybody want's to test, just let me know ahead of time so I can bring it up
for you. Send an EMAIL to kb2wqm@amsat.org . You can also check on the
internet , look for kb2wqm-1, that is the PACGATE . Make sure it is a
current report.

73 Jeff kb2wqm

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116. [ao16aprs] Re: [amsat-bb] Help digipeat.

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Thu, 23 Sep 1999 20:33:54 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41292-1999.09.23-20.45.52--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

The callsign to digipeat APRS beacons on the birds
is as follows:

AO-16   PACSAT-1

LO-19   LUSAT-1

IO-26   ITMSAT-1

I should be digipeating via AO-16 tomorrow from an
APRS dead zone in the Southeast headed back to
Huntsville on Friday using the callsign N8DEU, then
when the birds disappear for the morning, I will use
the regular APRS 2M network when I get in range of
a digipeater near Birmingham, Alabama. My travel
will start somewhere between 1600z -1750z which
will give me at least 1 or 2 passes to utilize.

>From the APRS dead zone the only link on 2M will
be via one of the Pacsats since there are no
digipeaters in the initial areas I will be traveling. If
all goes well, I will access AO-16 with no trouble as
I did earlier today from the mobile station.

When my beacon hits the bird I can be found at:

http://www.aprs.net:8000/n8deu when accessing via
the digital birds or http://www.aprs.net:8000/n8deu-12
when accessing APRS via the terrestrial 2M link.

If time permits I will also try to access LO-19 and
IO-26, but that requires pulling out my laptop and
reprogramming the UNPROTO path until the digital
support a generic alias of RELAY. Thus, making it
easier for the remote travelers to access the 3 digital
Pacsat's a little easier.

If there are no technical problems from the mobile, I
will have a signal on the Uplink tomorrow around
1600z using a $2 modification to my MFJ1270 TNC.

73's,

Tim - N8DEU

-----Original Message-----
From: Peter Rogers <progers@lightspeed.bc.ca>
To: amsat-bb@AMSAT.Org <amsat-bb@AMSAT.Org>
Date: Thursday, September 23, 1999 7:37 PM
Subject: [amsat-bb] Help digipeat.

> Hello out there, I have been trying to get a response from AO-16, LO-19
using
>UNPROTO.
>
> Setup is FT 736R, AEA DSP 2232 on modem 13, I am using my beams at this
time

>to get a setup that works, then I can graduate to HT and small antenna.
>
> Software:- I have tried PACKCOM and APRS840, now my thinking is that if I
am
>using the DSP 2232 I should be able to read the output with any software??
>why am I
>getting nothing, even when I hear data on AO-16.
>
> My UNP on AO-16 is APRS via PACSAT-1, what would it be on LO-19?
>
>I would appreciate any tips on this setup
>
>Thank you
>
>Peter VE7AHX
>
>----
>Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
>To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org

---
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117. [ao16aprs] dsp 2232 problems

From: kb2wqm@juno.com
Date: Fri, 24 Sep 1999 08:01:32 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41341-1999.09.24-07.15.34--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Peter good day. Is your 2232 in fullduplex?

exp on
fu on/on
u gridsq via pacsat-1(or lusat-1,itmsat-1)
mod 13
rad 1/0

Last time I looked io-26 wasn't in digipeat mode (d=0) Sometimes I have
to do a full tnc reset on my 2232. but I run about 5 different modes with
it. Sometimes it won't tx. Other time's when I can't tx is when my 847
locks up , I have to do a power off/on reset to get it cleared up when
switching modes. Of course I use batch files to do all my configuration
for me to save time. I use winpack mostly, and when I do a tnc reset I
use pacratt. I usually don't have any problems , mostly when I collect
telemetry from UO-11, which requires ascii mode, that can require a reset
to clear out of. If you would like my config files let me know I will
mail them off to you.

73 Jeff kb2wqm

> From: Peter Rogers <progers@lightspeed.bc.ca>
> To: amsat-bb@AMSAT.Org <amsat-bb@AMSAT.Org>
> Date: Thursday, September 23, 1999 7:37 PM
> Subject: [amsat-bb] Help digipeat.

> > Hello out there, I have been trying to get a response from AO-16,
LO-19 using
> >UNPROTO.
> >
> > Setup is FT 736R, AEA DSP 2232 on modem 13, I am using my beams at
> this time to get a setup that works, then I can graduate to HT and
small
> antenna. Software:- I have tried PACKCOM and APRS840, now my thinking
is
> that if I am using the DSP 2232 I should be able to read the output
with any
> software?? why am I getting nothing, even when I hear data on AO-16.
> > My UNP on AO-16 is APRS via PACSAT-1, what would it be on LO-19?
> >I would appreciate any tips on this setup
> >Thank you
> >Peter VE7AHX

_____
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118. [ao16aprs] tnc's for Tracknet

From: kb2wqm@juno.com
Date: Fri, 24 Sep 1999 08:44:17 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41344-1999.09.24-07.56.04--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have an MFJ 1270C, I was getting ready to modify for manchester
encoding. Looking over the manual it appears it doesn't support GPS. Is
this true? Anyone using the 1270C have it working with a GPS? Otherwise I
 don't see using it for tracknet, I can return it. Going to call
Kantronics today, on moding the KPC-3 non-plus I picked up cheap. This
should work with a GPS with the upgrade chip.

73 Jeff kb2wqm

_____
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119. [ao16aprs] Re: tnc's for Tracknet

From: Earl Needham <KD5XB@AMSAT.ORG>
Date: Fri, 24 Sep 1999 12:36:46 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41369-1999.09.24-13.54.44--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:44 AM 9/24/1999 -0400, kb2wqm@juno.com sent:
>
>I have an MFJ 1270C, I was getting ready to modify for manchester
>encoding. Looking over the manual it appears it doesn't support GPS. Is
>this true? Anyone using the 1270C have it working with a GPS?

        Well, I have a 1270B, and it wouldn't do GPS mode until I got the latest
PacComm firmware and put in it. They're TNC-2 clones, BTW, and the PacComm
firmware works great in the 1270B. I believe the 1270C requires a jumper
mod, but not too difficult at all.

>Otherwise I don't see using it for tracknet, I can return it. Going to
>call Kantronics today, on moding the KPC-3 non-plus I picked up cheap.
>This should work with a GPS with the upgrade chip.

        Don't count the MFJ out just yet -- you might check on the APRSSIG and see
what folks think. *I* think the MFJ is very workable...

        7 3
        Earl

Earl Needham, KD5XB   mailto:KD5XB@AMSAT.ORG
Clovis, New Mexico   DM84jk N34d 25.446 W103d 12.700 (or so)

Pet peeve: breath is a noun, breathe is a verb (When you take a breath,
you breathe...)

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

120. [ao16aprs] Re: tnc's for Tracknet

From: kb2wqm@juno.com
Date: Fri, 24 Sep 1999 16:24:46 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41375-1999.09.24-15.37.46--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ok. Just got off the phone with Kantronics. tech person didn't have a
clue that we were messing around with the PACSATS. Said, why do you want

to do that , I don't think the PACSAT's are working anymore! So I explained to them what we want to do, was told very nicely that there is no time to work on that unless it becomes a marketable item. It seems to me you get different levels of tech support from Kantronics, good and bad. Whoever picks up the phone. I picked up this tnc cheep, but it doesn't have a schematic with it. Does anyone have a schematic for a kpc-3, pre plus version? If so could you scan it in and email it to me at....

kb2wqm@amsat.org

On using the MFJ1270C wirh the PacComm F/W the tnc costs $115 the F/W costs $35 plus shipping total of $146, I might as well buy the PacComm tiny tnc mark II. It is a much smaller package for $149 plus shipping. I already have a PacComm satellite modem set, I just want to put together a smaller package for tx only to use on the boat, travel, etc. The PacComm satellite modem set is 2 seperate tnc's, somewhat bulky compared to a kpc-3.

73 Jeff kb2wqm

On Fri, 24 Sep 1999 12:36:46 -0600 Earl Needham <KD5XB@AMSAT.ORG> writes:
> At 08:44 AM 9/24/1999 -0400, kb2wqm@juno.com sent:
> >
> I have an MFJ 1270C, I was getting ready to modify for manchester
> encoding. Looking over the manual it appears it doesn't support
> GPS. Is this true? Anyone using the 1270C have it working with a GPS?
>Well, I have a 1270B, and it wouldn't do GPS mode until I got the latest
> PacComm firmware and put in it. They're TNC-2 clones, BTW, and the
> PacComm firmware works great in the 1270B. I believe the 1270C requires a
> jumper mod, but not too difficult at all. Otherwise I don't see using it for tracknet, I can return it.
> Going to call Kantronics today, on moding the KPC-3 non-plus I picked up cheap.

>This should work with a GPS with the upgrade chip. Don't count the MFJ out just yet -- you might
  check on the   APRSSIG and see what folks think. *I* think the MFJ is very workable...
>
>   7 3
>   Earl

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121. [ao16aprs] Re: tnc's for Tracknet

From: "Mike Edwards" <medwards@atlantic.net>
Date: Fri, 24 Sep 1999 17:27:32 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41380-1999.09.24-16.39.33--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have the KPC-3 Schematic, Ver 6.0 (Pre-Plus) - Bought in August 95.. It measures 13"x10" (the schematics that is).. Not sure if I can get it all in one scan on the flatbed, but i'll try.

I as well am interested in seeing what it takes to make the KPC talk to our (not so) new APRS sats.

Mike
KE4YGT
Melbourne, FL

-----Original Message-----
From: kb2wqm@juno.com <kb2wqm@juno.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Friday, September 24, 1999 4:27 PM

Subject: [ao16aprs] Re: tnc's for Tracknet

<Snip>
Does anyone have a schematic for a
>kpc-3, pre plus version? If so could you scan it in and email it to me
>at....

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122. [ao16aprs] KPC-3 Schematics

From: "Mike Edwards" <medwards@atlantic.net>
Date: Fri, 24 Sep 1999 18:01:16 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41382-1999.09.24-17.12.52--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Okay crew, I got the schematics scanned. Since I figure others may want to
see the schematic as well, i'll just throw it up on my webspace. Two scans,
about 2 megs each (200dpi TIF) ... If you have photo stitching software, you
may be able to put the left and right together, I overlapped them on
purpose.

http://www.atlantic.net/~medwards/kpc3schematic.zip

Mike
KE4YGT

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

123. [ao16aprs] Re: KPC-3 Schematics

From: kb2wqm@juno.com
Date: Fri, 24 Sep 1999 19:34:49 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41387-1999.09.24-18.46.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Ok, the best I could come up with is U6 pin 14 txd, the only clk I see is
U6 pin 2, but that goes to 5v, can't be right. I think pin 14 is good for
data, but where is the clock?

73 Jeff kb2wqm

On Fri, 24 Sep 1999 18:01:16 -0400 "Mike Edwards" <medwards@atlantic.net>
writes:
> Okay crew, I got the schematics scanned. Since I figure others may
> want to
> see the schematic as well, i'll just throw it up on my webspace. Two
> scans,
> about 2 megs each (200dpi TIF) ... If you have photo stitching
> software, you
> may be able to put the left and right together, I overlapped them on
> purpose.
>
> http://www.atlantic.net/~medwards/kpc3schematic.zip
>
> Mike
> KE4YGT
>
>
>
> ---
> You are currently subscribed to ao16aprs as: KB2WQM@JUNO.COM
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> leave-ao16aprs-833L@lists.tapr.org
>

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124. [ao16aprs] Re: [ss] Re: info

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Fri, 24 Sep 1999 22:14:55 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41399-1999.09.24-22.27.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

>As to radios, any radio will work. The TM-V7A is very flexible. It will
>allow you to run APRS on VHF and allow you to talk on VHF at the same time.
>I have one and I really like it. Order the kit to mount the display in
>another place. I can never find a good place in today's cars/trucks to
>mount the radio where it is a good viewing spot.
>
>Scott

Does the TM-V7A have a PTT line on the microphone or is the PTT signal digitally encoded from the microphone like many of the other new radio's on the market?

I have another brand of radio I have been using with an APRS Mic-Encoder, but there is no PTT line on the microphone plug. Instead, the PTT signal is encoded on a serial stream of data to the radio from the microphone and the radio decodes the information. The APRS Mic-E does not work with this type of arrangement at all, unless you get real creative with some fancy
modifications to the radio. The radio I am using has a 1200/9600 packet connector on the back of the radio that I wired to the Mic-E, but I had to modify the radio to the get a decoded PTT signal back to the Mic-E so it would hold the PTT line at the packet jack on the radio. Unfortunately, when the PTT is dropped from the microphone, the radio unkeys before the microprocessor in the radio looks at the PTT signal at the packet jack. This
is a real pain. The result is that my signal drops momentarily when I unkey the microphone and rekeys the transmitter when it discovers that the PTT is activated from the packet jack (PTT challenged). So, when I am on a voice repeater and unkey the microphone using my Mic-E, there is a short squelch tail before the data from the Mic-E is presented at the end of a transmission. This requires the end of transmission to be longer in order for the transmitter to settle and send the APRS posit which equates to about 200-300ms longer than what it really should be if the transmitter did not
drop in the first place. Considering that most courtesy beacons are more annoying than the Mic-E posit, it may not matter anyway.

Anybody who wants to use a Mic-E or similar device on some of these new radio's should be aware of this condition as a Mic-E will not work without some radio modification if the radio does not have a dedicated PTT line. In some cases it may not be possible or require major effort.

If one wants to merely use a radio for APRS on 2M just to beacon on the APRS network, most radio's that have a packet data jack or a true hardwired old fashion PTT line on the microphone jack can be utilized. Most can be modified if they do not meet the above requirements. However, my point is specifically directed to those who may be interested in using a Mic-E or similar device to attached an APRS packet posit at the end of a voice transmission.

73's,

Tim - N8DEU
Huntsville

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

125. [ao16aprs] AO-16

From: Builderick@aol.com
Date: Sat, 25 Sep 1999 07:44:31 EDT
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41454-1999.09.25-06.56.20--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hey Group

Thanks to all who answerd my question about MIR keps.

Also of interest, I ran APRS824 last night on the 1200 baud pacsats

Call signs placed on the map were N8DEU and N5ZNL
These had 25 queres and 1.
Modem set to PSK radio SSB Tuning automatic (wisp)

Rick KB0VBZ

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126. [ao16aprs] MFJ1270C command list

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Sat, 25 Sep 1999 09:14:31 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41459-1999.09.25-08.25.57--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Here's something interesting, I got this message from Danny
ke4rap@netzero.net
The MFJ has 3 commands for GPS. Since I have not even played with a GPS
yet, I am not sure exactly how they work. They are:

NMEAFLT1
NMEAFLT2
NMEABCN

The guys at MFJ told me they had added them, but not in time to make the
manual. I'm sure if you made a post on the "main" APRSSIG, you would get a
few people who knew exactly what they did. (I have seen the subject of the
1270C/GPS on there in the past, and someone apparently had set it up to work
as a tracker with those commands.)
73, de Danny

 and here is a disp list from my 1270C f/w rel 2.2 11/11/1995......

8BITCONV OFF
AX25L2V2 ON
ACKPRIOR ON
ACKTIME 14
ANSWRQRA ON
ASYRXOVR 0
ASYFRERR 0
ASYQOVER 0
AUTOLF   ON
AWLEN   8
AXDELAY 0
AXHANG   0
BEACON   EVERY 0
BBFAILED 0
BBSMSGS OFF
BANK   0
BKONDEL ON
BTEXT
BUDLIST OFF
Link state is: DISCONNECTED
CBELL   OFF
CONPERM OFF
CHECK   12
CHECKV1 OFF
CLKADJ   0
CMDTIME 1
CMSG   OFF
CMSGDISC OFF
CPACTIME OFF
CR   ON
CTEXT

```
CANLINE  $18
COMMAND  $03
CALSET   0
CANPAC   $19
CONOK    ON
CONMODE  CONVERSE
CONSTAMP OFF
CWID     OFF
DAYUSA   ON
DEADTIME 33
DELETE   OFF
DWAIT    33
DIGIPEAT ON
DIGISENT 0
ECHO     ON
ESCAPE   OFF
FLOW     ON
FIRMRNR  ON
FRACK    3
FULLDUP  OFF
HEADERLN OFF
HEALLED  OFF
HID      OFF
HOVRERR  0
HUNDRERR 0
IDTEXT
KILONFWD OFF
KISS     OFF
LCOK     ON
LFADD    OFF
LFIGNORE OFF
LCALLS
LCSTREAM ON
MONITOR  ON
MALL     ON
MAILBOX  ON
MAILLED  ON
MCON     OFF
MCOM     OFF
MCTEXT
MEXCLUDE
MFILTER  $00
MNONAX25 OFF
MNONPRIN ON
MRPT     ON
MSTAMP   OFF
MTIMEOUT 30
MYCALL   NOCALL
MYHIERAD
MYMCALL
MYALIAS
MAXFRAME 4
NEWMODE  OFF
NMEABCN  0
NMEAFLT1
NMEAFLT2
NOMODE   OFF
NODEPATH
NUCR     OFF
NULF     OFF
NULLS    0
PACLEN   128
PARITY   0
PASS     $16
PASSALL  OFF
PACTIME  AFTER 10
PERSIST  8
PPERSIST ON
RCVDFRMR 0
RCVDIFRA 0
RCVDREJ  0
RCVDRNR  0
RCVDSABM 0
RETRY    10
REDISPLA $12
REMSYSOP
RESPTIME 0
REVFLIM
RXABORT  53
```

```
RXBLOCK  OFF
RVFALWAY ON
RXCOUNT  0
RXERRORS 0
RXLENERR 0
RXRESYNC 0
SCREENLN 0
SENDPAC  $0D
SENTFRMR 0
SENTIFRA 0
SENTREJ  0
SENTRNR  0
SLOTS    3
START    $11
STOP     $13
STREAMSW $7C
STREAMCA OFF
STREAMDB OFF
TIMEDCMD
TIMEDMIN 60
TRFLOW   OFF
TRIES    0
TRACE    OFF
TXCOUNT  0
TXDELAY  33
TXDELAYC 2
TXDIDDLE OFF
TXFLOW   OFF
TXQOVFLW 0
TXTMO    0
TXUIFRAM ON
UNPROTO  CQ
USERS    1
XFLOW    ON
XMITOK   ON
XOFF     $13
XON      $11
 There are alot of commands not in the manual. Looks like an upgrade to
PacComm firmware might not be needed after all. I will have to hook it up to
my GPS, to see if I can get it working. Keep you posted.

73 Jeff kb2wqm









---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
```

127. [ao16aprs] Re: [amsat-bb] AO-16

```
From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Sat, 25 Sep 1999 09:02:27 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41462-1999.09.25-09.14.22--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain
```

Rick,

Thanks for confirming the reception of my signal via AO-16.
My signal was being transmitted from my vehicle using the
following setup:

1. 20W radio
2. 5/8w mobile antenna
3. MFJ-1270 TNC with $2 Manchester modification
4. GPS connected to TNC

It does not take much signal for the Pacsat's to hear you and
rebroadcast an APRS position report. I will have my mobile
active on the air once again today and hopefully post the
modification I am using later this weekend. ;-)

73's

Tim - N8DEU

-----Original Message-----
From: Builderick@aol.com <Builderick@aol.com>
To: amsat-BB@AMSAT.Org <amsat-BB@AMSAT.Org>; ao16aprs@lists.tapr.org
<ao16aprs@lists.tapr.org>
Date: Saturday, September 25, 1999 6:44 AM
Subject: [amsat-bb] AO-16

>Hey Group
>
>Thanks to all who answerd my question about MIR keps.
>
>Also of interest, I ran APRS824 last night on the 1200 baud pacsats
>
>Call signs placed on the map were   N8DEU   and N5ZNL
>These had 25 queres and 1.
>Modem set to PSK   radio SSB   Tuning automatic (wisp)
>
>Rick KB0VBZ
>----
>Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
>To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org

---
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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

128. [ao16aprs] Re: [amsat-bb] AO-16

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Sat, 25 Sep 1999 09:11:35 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41463-1999.09.25-09.23.32--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Oh, I forgot to mention that I am using PacComm's TNC-2 Compatible
Release 5.0 firmware in the MFJ-1270 TNC. It has many features
available to support APRS and lets you connect a GPS to a regular
TNC through the RS-232 serial connector to capture the data to
send in a beacon.

You can find an online command and function reference for their firmware
along with more detail at http://www.paccomm.com/

73's

Tim - N8DEU
Huntsville, AL

-----Original Message-----
From: Tim Cunningham <tim_cunningham@mindspring.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Saturday, September 25, 1999 9:03 AM
Subject: [ao16aprs] Re: [amsat-bb] AO-16

>Rick,
>
>Thanks for confirming the reception of my signal via AO-16.
>My signal was being transmitted from my vehicle using the
>following setup:
>
>1. 20W radio
>2. 5/8w mobile antenna
>3. MFJ-1270 TNC with $2 Manchester modification
>4. GPS connected to TNC
>
>
>It does not take much signal for the Pacsat's to hear you and

>rebroadcast an APRS position report. I will have my mobile
>active on the air once again today and hopefully post the
>modification I am using later this weekend. ;-)
>
>
>
>73's
>
>Tim - N8DEU
>
>
>-----Original Message-----
>From: Builderick@aol.com <Builderick@aol.com>
>To: amsat-BB@AMSAT.Org <amsat-BB@AMSAT.Org>; ao16aprs@lists.tapr.org
><ao16aprs@lists.tapr.org>
>Date: Saturday, September 25, 1999 6:44 AM
>Subject: [amsat-bb] AO-16
>
>
>>Hey Group
>>
>>Thanks to all who answerd my question about MIR keps.
>>
>>Also of interest, I ran APRS824 last night on the 1200 baud pacsats
>>
>>Call signs placed on the map were   N8DEU   and N5ZNL
>>These had 25 queres and 1.
>>Modem set to PSK   radio SSB   Tuning automatic (wisp)
>>
>>Rick KB0VBZ
>>----
>>Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
>>To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
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129. [ao16aprs] MFJ 1274

From: "VE5DGD" <ve5dgd@rac.ca>
Date: Sat, 25 Sep 1999 12:42:31 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41481-1999.09.25-13.52.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have any MFJ 1274 tnc connected to a 2m rig. Is there a modification for
this tnc to allow me to use AO16?

I believe it's 2m up and 70cm down but I don't have a 70cm rig.

Thanks in advance...

73s.

signed,
David Dunster, VE5DGD
RARA President
ARES Regina
SAR Regina
CANWARN Regina
ARES Regina: http://www.qsl.net/ve5dgd (under construction)
RARA Site: http://www.gpfn.sk.ca/hobbies/rara/index.html
APRS+SA Docs: http://www.peel.com/APRS-SA/ve5dgd.htm#top

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

130. [ao16aprs] Re: MFJ 1274

From: "Mike Edwards" <medwards@atlantic.net>
Date: Sat, 25 Sep 1999 15:24:59 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41508-1999.09.25-14.36.49--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Would a Scanner work if you had it hooked to a good enough antenna? (or a
dual band beam with a duplexer connected?)

Mike (on the lookout locally for a Tiny-2 or MFJ 127x)

From: VE5DGD <ve5dgd@rac.ca>

>I have any MFJ 1274 tnc connected to a 2m rig. Is there a modification for
>this tnc to allow me to use AO16?

>I believe it's 2m up and 70cm down but I don't have a 70cm rig.

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
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131. [ao16aprs] Re: MFJ 1274

From: "Mike Edwards" <medwards@atlantic.net>
Date: Sun, 26 Sep 1999 11:16:20 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41598-1999.09.26-10.27.47--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Okay, I admit, I didn't do my reading.. Didn't know the downlink was SSB
(and required precise doppler tuning) :-)

<nervous coughing>

Mike
KE4YGT

From: Me
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>

>Would a Scanner work if you had it hooked to a good enough antenna? (or a
>dual band beam with a duplexer connected?)

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132. [ao16aprs] AO16/LO19/IO26 News!

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 27 Sep 1999 12:04:53 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41834-1999.09.27-11.17.12--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Two items from DCC:

1) I met with Jim White of the AO16 command team and he thinks he has
devised a way to add a generic DIGIPEATER alias to the 1200 baud pacsats.
And he thinks he can do it without a "full reload".

Thus we may be able to have 3 identical satellites, all on 145.90, and all
willing to digipeat packets addressed via "APRSAT". Thus, our first
Amateur Radio mobile communications constellation may be possible!

2) *** Please think carefully about the following item from a LONG TERM
POLITICAL PERSPECTIVE ***** We have a GREAT OPPORTUNITY, but we MUST
APPROACH IT CORRECTLY! Please limit discussions as long as we can
to this SIG only...

2) New Kenwood radio can do front-panel APRS at 9600 baud. Thus we have

potential for eventually having two-way mobile APRS via 9600 baud birds!

**** BUT PLEASE NOTE***** THis is/will be a political MINEFIELD.

1) DIGIPEAT is NOT ON in any of the 9600 baud birds for GOOD REASON.

2) The 9600 baud birds ARE IN USE. Digipeating will DEGRADE their
   performance to all other users. The PACSAT protocol is very
   effecient. User uplinks are scheduled, digipeating is NOT.
   A few APRS pings on the uplink are BAD NEWS to other users...

3) 99% of HAM radio still does not understand APRS or UI digipeating
   and will try "CONNECTIONS" which are even MORE WORSE.

4) Many areas of the world DEPEND on the 9600 baud pacsats for BBS
   traffic where the Internet is still very expensive or non existant.
   What we see here over the USA is totally different over Europe.
   Thus any change has worldwide impact...

Thus, we must approach this very cautiously. Please refrain from pushing
the issue, but lets just see where we can sort of move the concept along.
Here are my suggestions...

*) Let me present the issues in my talk at the Amsat SYmposium next week
in San DIego on 8 Oct. I can gage the response and get a better feel if
we have a snoball's chance and where to begin...

*) No postings on AMSAT-BB for a few days.. if we can avoid it. I am
probably the biggest offender. (I have a big mouth:-)

*) We HAVE AO16/LO19/IO26 *now*. We must not dilute that effort.
   Even if we got access to a 9600 baud bird, we would appear
   greedy unless we can show we are using them!

*) The 1200 baud Traknet is still needed and will always have value for
   $2 trackers. Most stations are usually just trckers anyway...

*) We must Take the position that we have NO INTENT on the existing 9600
   baud pacsats. This capability will be targeted for many of the
   "9600 baud experiments" currently in work on many new satellites.

*) Lets keep working on the 1200 baud AO16/19/26 and prove our skills
   and dedication to this application...

etc...

de WB4APR, Bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

133. [ao16aprs] Path Statement

From: "Bob Hart" <rahart@hctc.com>
Date: Mon, 27 Sep 1999 13:56:24 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41887-1999.09.27-17.10.44--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I guess I must have been totally absorbed in finding parts in my junk box,
etching a board and wiring the $2 mod into my TNC. I either failed to take
note or it hasn't been stated what the path statement is to digi via the
satellites. Someone pleas give me and example of how to digi through AO-16.

Thanks,
Bob Hart
Hoodsport, WA 98548
Amateur Radio WA7HRA

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

134. [ao16aprs] Re: AO16/LO19/IO26 News!

From: Clifford Buttschardt <cbuttsch@slonet.org>
Date: Mon, 27 Sep 1999 16:51:08 -0700 (PDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41908-1999.09.27-19.02.39--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob, you have given some rather good and mature warnings about the use of the satellites in APRS. They are well taken. You must have sensed my concern about the expansion of APRS without some limit.

I'll be giving a paper at San Diego on a patch antenna that was designed primarily for mobile satellite use. It is NOT easy to build but does the job well for APRS since the pattern of the GPS and Pacsat are very similar. We need to spend some time together on many subjects! For one, I can not get my MIC-E beta model going come hell or high water.

I did not get your message via AO-16 but rather I was told that it was there. I've been working on a simpler PSK modem when the S53MV modem was introduced. It is far from a TAPR PSK modem but might do well enough for marginal results. See you there. I have a room at the convention hotel and will be meeting primarily with the AMSAT people. Cliff K7RR

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

135. [ao16aprs] Re: Path Statement

From: "Mike Edwards" <medwards@atlantic.net>
Date: Mon, 27 Sep 1999 21:57:38 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41942-1999.09.27-21.09.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

De Tim N8DEU:

The callsign to digipeat APRS beacons on the birds
is as follows:

AO-16 PACSAT-1

LO-19 LUSAT-1

IO-26 ITMSAT-1

(de Mike)

I imagine you'd want that as the first hop (APRS VIA PACSAT-1), since you're transmitting directly to the Sat on an isolated frequency (not the 144.39 APRS frequency)..

Mike KE4YGT

-----Original Message-----
From: Bob Hart <rahart@hctc.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Monday, September 27, 1999 6:00 PM
Subject: [ao16aprs] Path Statement

>I guess I must have been totally absorbed in finding parts in my junk box,
>etching a board and wiring the $2 mod into my TNC. I either failed to take
>note or it hasn't been stated what the path statement is to digi via the
>satellites. Someone pleas give me and example of how to digi through
AO-16.

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

136. [ao16aprs] Re: Path Statement

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Mon, 27 Sep 1999 21:23:22 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-41950-1999.09.27-21.35.27--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How to set the PATH to Digipeat via the PACSAT's:

Depending on what method you use, the following will work
for digipeating your BTEXT or beacon text setting:

UNPROTO APRS VIA PACSAT-1

The example above applies to AO-16. For LO-19 and
IO-26 replace PACSAT-1 with LUSAT-1 or ITMSAT-1
respectively.

When I am mobile I use the following path in case there is
a link from a SATGATE to a terrestrial path:

UNPROTO APRS VIA PACSAT-1,WIDE,WIDE

If you are using a TNC that supports the APRS mode of
operation using a GPS, you will need to set the LPATH
much like the UNPROTO path for your location path
beacons. For example:

LPATH APRS VIA PACSAT-1

This would send your location information to APRS via
PACSAT-1. I am using the PacComm v5.0 firmware in
an MFJ-1270 and typically use the following LPATH setting
from my Jeep:

LPATH APRS VIA PACSAT-1,WIDE,WIDE

I hope this helps everyone set the path correctly to digipeat
those APRS beacons via the PACSAT's. Just remember
UNPROTO is used to set the path for your beacon text or
BTEXT. LPATH is used to set the path for your location
beacons.

There are other forms of APRS support with other firmware,
but I have only given examples for the PacComm firmware
which may closely match other vendor implementations.

73's and happy APRS packeting,

Tim - N8DEU
Huntsville, Alabama

-----Original Message-----
From: Mike Edwards <medwards@atlantic.net>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Monday, September 27, 1999 8:58 PM
Subject: [ao16aprs] Re: Path Statement

>De Tim N8DEU:
>
>The callsign to digipeat APRS beacons on the birds
>is as follows:
>
>AO-16   PACSAT-1
>
>LO-19   LUSAT-1
>
>IO-26   ITMSAT-1
>
>(de Mike)
>
>I imagine you'd want that as the first hop (APRS VIA PACSAT-1), since
you're
>transmitting directly to the Sat on an isolated frequency (not the 144.39
>APRS frequency)..
>
>Mike KE4YGT
>

>
>-----Original Message-----
>From: Bob Hart <rahart@hctc.com>
>To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
>Date: Monday, September 27, 1999 6:00 PM
>Subject: [ao16aprs] Path Statement
>
>
>>I guess I must have been totally absorbed in finding parts in my junk box,
>>etching a board and wiring the $2 mod into my TNC. I either failed to take
>>note or it hasn't been stated what the path statement is to digi via the
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>
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>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

137. [ao16aprs] More Path Statement

From: "Bob Hart" <rahart@hctc.com>
Date: Tue, 28 Sep 1999 10:43:42 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-42132-1999.09.28-14.15.43--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Thanks to all who responded to my request for suggestions regarding the path statement to work AO-16.

The responses to my query and certain comments about the new Kenwood radio shown at the DCC tell me there are many in our APRS group who are not really knowledgeable about the digital satellites. This is not meant to be critical. Just because it is ham radio doesn't mean that every Ham knows every thing. However, since there is obviously an interest in using the 1200 baud Pacsats for APRS, a short primer on their operation is probably in order.

The primary mission of AO-16, LO-19, and IO-26 has been to serve as orbiting store and forward BBS's. A Ham on one side of the world could post a message on the BBS and it could be read later by another Ham virtually anyplace else in the world. They use a very special Pacsat protocol to do so and they have done a great job for 10 years. Things are beginning to fail. I believe the BBS on LO-19 is now out of service. There was never any real intent to use them for real time communications as we are planning to do. However, since they do have digipeaters that can be turned on for our use we can be grateful that the managers have agreed to do so. If we screw up, they can also be turned off.

As Bob, WB4APR, has pointed out, a simple $2 modification is all that is required to adapt any TAPR TNC 2 or clone to transmit Manchester encoded FM on 2 meters which is what the satellites expect to hear. I found everything in my junk box. I would class it as a one evening job. Hearing the satellites is another matter. The 437 Mhz downlink is phase shift keyed (PSK) on single side band. It requires a special modem, tracking software and antennas, and a 3/4 meter ssb receiver that can tuned for Doppler shift. Unless you are "into" satellites you are not likely to have all of this. The good news is, you don't have to hear the satellites. If there are properly equipped ground stations physically located to be in the footprint of the satellite at the same time you are, they will hear your posits and can then post them to the APRSServ network. From the looks of things, I would say that two or three ground stations or PACGATES are all that would be needed.

Now, this brings us back to the original question. What path statement should be used. I define path statement as all that stuff that follows the "via" in your unproto broadcast. The first thing has to be the call sign or the alias of the satellite. At the present time, this will have to be the call sign. PACSAT-1, LUSAT-1, ITMSAT-1, respectively. Bob is working on a common alias which will allow us to have a single path statement. The next thing will have to be the alias of the PACGATE. The alias GATE has been around for a long time, so why not use it? This decision has probably already been made, and is really what my original question was all about. I envision the path statement as VIA PACSAT-1, GATE That should be

the whole path statement. PACGATES sending out a plethora of
WIDE's, even if they could doesn't make any sense to me.

The only PACGATE I am currently aware of is KB2WQM-1 in New Jersey. Really
great if you live in Annapolis. Is there anyone on the West Coast or the
Central Sates?

Please, if you respond to this "big one", don't quote the whole thing. I
have used up enough band space already.

Bob Hart
Hoodsport, WA 98548
Amateur Radio WA7HRA

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October 1999

Original source file: aprssat.9910
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9910

1. [ao16aprs] Manchester mod

From: "Jeff Griffin" <kb2wqm@cyberenet.net>
Date: Fri, 1 Oct 1999 08:24:31 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-42595-1999.10.01-12.26.39--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good day everyone. This eliminates the Kantronics KPC-3 family of TNC's.
Look's like the only candidates remaining are the TNC-2 's.

73 Jeff kb2wqm

From: Steven R. Bible To: Jeff Griffin
Subject: Re: kpc3 mod

Jeff, I worked on this last year. It can't be done. The 3105 modem chip
does produce the 19.2khz square wave that's needed to xor with the data.
But the problem is that they are not synchronized. Herein lies the problem
and the non-ability to mod a KPC-3 (or +) or any
 TNC that used the 3105 chip. Now, if you could devise a circuit that can
sync the two the we may be able to do it. But it will not be a 89 cent mod.
Hope that helps. I hate seeing you guys reinvent the wheel. I did all this
work last year and posted it to the list.
 73,
- Steve

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] Manchester mod

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Mon, 4 Oct 1999 09:13:36 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@aqmsat.org
Message-ID: <LYR833-43182-1999.10.04-08.25.43--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I got this from Tim, N8DEU who was the first to build my suggested
Manchester mod to the TAPR-2.... for uplinking to AO16/LO19/IO26:

"Actually, I inverted the clock because it did not appear to be
working. After looking at a PSK-1 modulator design for the
disconnect header I found the clock is inverted through the use
of a divider chip. Thus, it struck me to try inverting the clock
and wall-la it worked."

So in addition to the XOR gate, you may need an inverter too.
But on my TINY-2 schematic there is an inverter already on the TXD
so maybe it would also work if you simply XORED the non-inverted TXD with
the existing clock? Thus you may not need the inverter.

Anyway, somthing to expermient with...

I ask the theorists, of the four ways to XOR clock and data, will only 1
work, or will two of them work?

de WB4APR, Bob

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3. [ao16aprs] RE:Manchester mod

From: "Darryl Smith" <vk2tds@ozemail.com.au>
Date: Tue, 5 Oct 1999 22:04:03 +1000

To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-43401-1999.10.05-07.29.57--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

G'Day

>So in addition to the XOR gate, you may need an inverter too.
>But on my TINY-2 schematic there is an inverter already on the TXD
>so maybe it would also work if you simply XORED the non-inverted TXD with
>the existing clock? Thus you may not need the inver

I believe that it should not matter if either or both the inputs are
inverted.... It does not matter if the output is inverted... Since it takes
4 nor gates to make an XOR, and there are 4 XOR's on a chip, it makes things
convenient...

Darryl

Darryl Smith, VK2TDS   POBox 169 Ingleburn NSW 2565 Australia
Mobile Number 0412 929 634 [+61 4 12 929 634 International]

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

4. [ao16aprs] [amsat-bb] ITAMSAT APRS ON (fwd)

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 5 Oct 1999 12:13:01 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-43461-1999.10.05-11.25.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Our Satellite #3 is ON LINE...

de WB4APR, Bob

---------- Forwarded message ----------
Date: Tue, 05 Oct 1999 14:21:31 +0200
From: Alberto E. Zagni <azagni@micronet.it>
To: amsat-bb@AMSAT.Org
Subject: [amsat-bb] ITAMSAT APRS ON

ITAMSAT IO-26 opened to APRS use

Last night after successful ending of the onboard checkout, ITAMSAT
ground controllers have switched ON the digipeater function.
Immediately many stations over Europe started to use IO-26 to repeat
back their UI frames and to make APRS tests.

Enjoy!
Alberto E. Zagni - I2KBD
ITAMSAT Mission Director

Via the amsat-bb mailing list at AMSAT.ORG courtesy of AMSAT-NA.
To unsubscribe, send "unsubscribe amsat-bb" to Majordomo@amsat.org

---
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5. [ao16aprs] [aprssig] Pacsat Gateway? (fwd)

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 6 Oct 1999 11:45:44 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: rahart@hctc.com
Message-ID: <LYR833-43638-1999.10.06-10.57.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob is ready to play on the 1200 baud PACSATS. It will be lonely for a
while, pioneeering always is... But sooner or later, if it is a good
idea, it will flourish...

---------- Forwarded message ----------
Date: Tue, 6 Oct 2099 07:03:33 -0700

From: Bob Hart <rahart@hctc.com>
To: TAPR APRS Special Interest Group <aprssig@lists.tapr.org>
Subject: [aprssig] Pacsat Gateway?

I am all dressed up and can find no place to go. My TNC is generating 1200
baud Manchester. My computer is tracking the birds. My radio faithfully
tunes for Doppler. My motorhome is full of gas a poised to head for the
sunbelt for the winter. The only problem is that I don't know where the
party is.

After a number of posts to this SIG, no one has been able, or perhaps
willing, to tell me if there is a West Coast Pacsat gateway, and if so what
is his call sign, location, and alias. I would really like to join the fun,
especially on the road which is what this was supposed to be all about in
the first place.

Bob Hart
Hoodsport, WA 98548
Amateur Radio WA7HRA

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To unsubscribe send a blank email to leave-aprssig-10461M@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] Re: [aprssig] Pacsat Gateway? (fwd)

From: "Bob Hart" <rahart@hctc.com>
Date: Wed, 6 Oct 1999 07:57:49 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-43640-1999.10.06-11.16.50--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I think I am going to cry.

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: ao16aprs@tapr.org <ao16aprs@tapr.org>
Cc: rahart@hctc.com <rahart@hctc.com>
Date: Wednesday, October 06, 1999 08:45
Subject: [aprssig] Pacsat Gateway? (fwd)

>Bob is ready to play on the 1200 baud PACSATS. It will be lonely for a
>while, pioneeering always is... But sooner or later, if it is a good
>idea, it will flourish...
>
>
>---------- Forwarded message ----------
>Date: Tue, 6 Oct 2099 07:03:33 -0700
>From: Bob Hart <rahart@hctc.com>
>To: TAPR APRS Special Interest Group <aprssig@lists.tapr.org>
>Subject: [aprssig] Pacsat Gateway?
>
>I am all dressed up and can find no place to go. My TNC is generating 1200
>baud Manchester. My computer is tracking the birds. My radio faithfully
>tunes for Doppler. My motorhome is full of gas a poised to head for the
>sunbelt for the winter. The only problem is that I don't know where the
>party is.
>
>After a number of posts to this SIG, no one has been able, or perhaps
>willing, to tell me if there is a West Coast Pacsat gateway, and if so what
>is his call sign, location, and alias. I would really like to join the fun,
>especially on the road which is what this was supposed to be all about in
>the first place.
>
>Bob Hart
>Hoodsport, WA 98548
>Amateur Radio WA7HRA
>
>
>---
>You are currently subscribed to aprssig as: bruninga@nadn.navy.mil

>To unsubscribe send a blank email to leave-aprssig-10461M@lists.tapr.org
>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

7. [ao16aprs] Re: [aprssig] Pacsat Gateway? (fwd)

From: kb2wqm@juno.com
Date: Wed, 6 Oct 1999 14:57:24 edt
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-43662-1999.10.06-14.14.54--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Bob , don't get discouraged. My East coast station, will cover the West
coast also. Let me know when you want to experiment, what bird, and we
can work up a sked, via e-mail. I will bring up the PACGATE. A quick
look... coast to coast coverage look's good.

73 Jeff kb2wqm

On Wed, 6 Oct 1999 07:57:49 -0700 "Bob Hart" <rahart@hctc.com> writes:
> I think I am going to cry.
>
>
> -----Original Message-----
> From: Bob Bruninga <bruninga@nadn.navy.mil>
> To: ao16aprs@tapr.org <ao16aprs@tapr.org>
> Cc: rahart@hctc.com <rahart@hctc.com>
> Date: Wednesday, October 06, 1999 08:45
> Subject: [aprssig] Pacsat Gateway? (fwd)
>
>
> >Bob is ready to play on the 1200 baud PACSATS. It will be lonely
> for a
> >while, pioneeering always is... But sooner or later, if it is a
> good
> >idea, it will flourish...
> >
> >
> >---------- Forwarded message ----------
> >Date: Tue, 6 Oct 2099 07:03:33 -0700
> >From: Bob Hart <rahart@hctc.com>
> >To: TAPR APRS Special Interest Group <aprssig@lists.tapr.org>
> >Subject: [aprssig] Pacsat Gateway?
> >
> >I am all dressed up and can find no place to go. My TNC is
> generating 1200
> >baud Manchester. My computer is tracking the birds. My radio
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> >tunes for Doppler. My motorhome is full of gas a poised to head for
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> >the first place.
> >
> >Bob Hart
> >Hoodsport, WA 98548
> >Amateur Radio WA7HRA
> >
> >
> >---
> >You are currently subscribed to aprssig as: bruninga@nadn.navy.mil
> >To unsubscribe send a blank email to
> leave-aprssig-10461M@lists.tapr.org
> >
>

>
> ---
> You are currently subscribed to ao16aprs as: KB2WQM@JUNO.COM
> To unsubscribe send a blank email to
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>

_____
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8. [ao16aprs] Re: [aprssig] Pacsat Gateway? (fwd)

From: "Bob Hart" <rahart@hctc.com>
Date: Wed, 6 Oct 1999 11:48:54 -0700
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-43673-1999.10.06-15.02.36--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Good to hear from you, Jeff. I will take a look at the Sat schedules and see
if I can find something that is more than 2 or 3 degrees above the horizon.
My notes tell me your PACGATE call sign is kb2wqm-1. Probably be a day or so
before I get back to you.

Thanks for the offer,

Bob

-----Original Message-----
From: kb2wqm@juno.com <kb2wqm@juno.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Wednesday, October 06, 1999 12:02
Subject: [ao16aprs] Re: [aprssig] Pacsat Gateway? (fwd)

>
>Bob , don't get discouraged. My East coast station, will cover the West
>coast also. Let me know when you want to experiment, what bird, and we
>can work up a sked, via e-mail. I will bring up the PACGATE. A quick
>look... coast to coast coverage look's good.
>
>73 Jeff kb2wqm
>
>

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9. [ao16aprs] Mobile APRS Satellite Communications

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 15 Oct 1999 10:59:29 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>
Message-ID: <LYR833-45097-1999.10.15-10.12.12--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Mobile Satellite hopefuls,

Here are some very interesting thoughts evolving out of the recent 1200
baud AO16/LO19/IO26 APRS tests and the introduction of the new Kenwood
APRS 1200/9600 baud mobile radio.

 * For tracking mobile GPS positions, status and uplink messages, a 1200
   baud PACSAT will deliver *twice* the traffic as any 9600 baud bird.

 * Conversly, for delivering APRS message traffic *TO* the mobile user, a
   9600 baud transponder can deliver 50 to 100 times *more* traffic than a
   1200 baud PACSAT.

Here is why. The 1200 baud birds have 4 simultaneous uplink channels
raising the aloha channel effeciency from say 20% to near 80%. Conversly

the 9600 baud satellite designs only have one receiver and the
througput of a 9600 baud APRS packet is not even twice as fast as a 1200
baud packet, because most of the packet timing is based on the
transmitter/recevier delays. Combine these and the 1200 baud PACSAT
delivers TWICE the user data in this "uplink limited" ALOHA environment.

But for delivering messages *TO* mobiles, a continuously streaming 9600
baud downlink (with no T/R delays per packet) can deliver over 1200
messages every 2 minutes. THus providing a 4 or 5 deep redundant delivery
of at least one message to over 1000 mobiles per footprint per pass.

CONCLUSION: This leads me to conclude that we should continue the efforts
to use the 1200 baud birds with the $2 mods to TNC's as the uplink and
tracking channel. It also suggests that it is a terrible waste to
consider using a 9600 baud uplink in an ALOHA fashion. The downlink would
be idle 90% of the time! (though it could be doing other things...)

THus, the use of 9600 baud transponders will be best for bent-pipe
delivery of message traffic TO MOBILES from the "footprint" IGates.
Mobiles will receive thier message traffic whenever a 9600 baud APRS bird
flies over. But users uplink whenever a 1200 baud bird approaches.

For LIVE TWO-WAY exchanges, the 1200 baud birds will be best, or the 9600
baud bird will require two receivers... One for the IGate stream, and the
other inneffeciently used for occassional user uplinks...

At least this is what it looks like from here (and today).. :-)

de WB4APR, Bob

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

10. [ao16aprs] Mobile 9600 Baud Satellite tests

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Tue, 19 Oct 1999 11:58:50 -0400 (EDT)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-45694-1999.10.19-11.12.01--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Several of us are experimenting with the concept of delivering Messages
to mobiles and Handhelds via 9600 baud satellites. It is easy to do with
a small handheld beam. But what we are trying to quantify is how long
during a pass we can receive data on a mobile OMNI antenna. If such a
mobile can receive 2 minutes or more, then we have a good chance of
delivering hundreds of brief messages to mobiles a few times a day.

These tests are being conducted with the handheld Kenwood THD7 with built
in 9600 baud TNC. (anyone with this radio can do this easily). S units
are referenced to the number of Segments displayed.

Test 1:   A quickly built 6.5 inch whip on a 2 foot groundplane and got S3
for several minutes past the center of the pass. (but with periodic
many-second fades). Past experience has recovered some data with this
poor of a signal (I couldn't find my HT-to-PC data cable)

Indoors I measured -115 dBm to get S3 and -110 dBm to get S4/S5.
But then I measured my 6.5 inch whip and got 2.5 SWR! So I Trimmed it
down to 1.0 SWR for next pass... Again I was late and witout data cable,
but got the following on KO25

   S5 for 20 secs Probably at 30 deg
   S3 for 20 secs Probably at 25 deg
   S5 for 20 secs Probably at 22 deg
   S3 for 40 secs Probably at 18 deg
   Then lost it. (below S3)

Thus, I could have received probably 2 minutes or so of usable data.

CONCEPT: So if a satellite was constantly listing traffic on a 2 minute
or so cycle, then at least twice a day per satellite, a mobile could
capture his traffic. These peaks in data only occur between about 20
to say 45 degrees and you can assume +5 or -5 doppler during these two
possibilities. THus, you can park your car, tune +5 or -5 depending on
which horizon is better, and your car Mobile has a good chance of
capturing traffic for you.

There are several things we need to analyze and collect data on:

1) Performance of each different satellite downlink
2) Mobile antenna designs optimized for gain in the 20 to 50 deg (or so?)
   elevation area and minimized elsewhere.
3) Produce probability distribution curves over these optimum Elevation
   angles for these omni antennas

What data we receive is not important at this point, but the consistency
of reception is what we are trying to quantify... for any possible future
satellite downlink experiments...

Currently known downlinks: UO22 = 435.120 +/- 9 KHz doppler
                            KO23 = 435.175 +/- 9 KHz doppler
                            KO25 = 436.500 +/- 9 KHz doppler
                            TO31 = 435.925 +/- 9 KHz doppler

de WB4APR, Bob

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11. [ao16aprs] APRS Satellite groundstation software

From: "Henry Moseley" <hmose@sover.net>
Date: Thu, 21 Oct 1999 12:46:31 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-46084-1999.10.21-11.59.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jeff King, Brian Riley, and Bob Bruninga are on the right track but it is
very much in order to spell out now what the users want the software to do.
We have been touting the concept of the lone lost mountaineer or sailor who
wants to send this UI frame to his base camp or to the Coast Guard via the
internet. Betcha he wont be able to do this reliably as things are going
now. Either Internet forewarding has got to be there or the whole world must
sit there with there eyes glued to some telnet download watching for they
know not what. Please don't use up the satellite passes for mere
conventional APRS unless this email forwarding feature is included because
you will basically block out the poor slob who is in trouble with his little
rubber duckey who is looking for help.

Thanks,

Henry
KA1RRT

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

12. [ao16aprs] reliable email, icq, etc via sat

From: "Jeff/kb2wqm" <kb2wqm@cyberenet.net>
Date: Fri, 22 Oct 1999 04:47:59 -0400
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-46186-1999.10.22-04.00.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have set up reliable terrestrial via satellite communications using
AO-16, LO-19, and IO-26. On all attempts to send email messages, I had a
100% success rate per pass, about 60% of UI's made it through the bird. This
was using my home sat station, connected to aprserve running APRSplus, and
WiSP. All standard versions of the existing software were used. I don't
leave my satellite station up at the present time, but could bring it up to
monitor for anyone being reported overdue, on a wilderness trip, or
whatever. I don't have to be here to monitor, the whole process of email
/ICQ is automated. I would bring up my station in the morning, goto work, it
would track all selected sat's on a priority basis. My mobile consisted of a
standard 50watt dual band rig and a PacComm satellite modem set, on my 19
foot sportfishing boat. . The user sends an email, the intended recipient
reads their email.. Simple as that for the user. I'm sure this could also
be done with a tnc, 5watt HT, and a small portable handheld beam.. Using the
existing pacsats and satellite ground stations the receiving job is done.
What need's to be done is the portable transmit station, a small low current
drain tnc has to be found that can be modded for this use. Anyone can build
a small portable 2 meter beam, to use with their HT for this effort. I

looked at KPC-3's, Pico Packet's, can't be done. Perhaps a PacComm tiny tnc.
We have FOUR satellites to use for this effort, if anyone want's to test a
portable system I will gladly bring up my receiving ground station.

73 Jeff kb2wqm

> Subject: APRS Satellite groundstation software
> From: "Henry Moseley" <hmose@sover.net>
> Date: Thu, 21 Oct 1999 12:46:31 -0400
> X-Message-Number: 1
>
> Jeff King, Brian Riley, and Bob Bruninga are on the right track but it is
> very much in order to spell out now what the users want the software to
do.
> We have been touting the concept of the lone lost mountaineer or sailor
who
> wants to send this UI frame to his base camp or to the Coast Guard via the
> internet. Betcha he wont be able to do this reliably as things are going
> now. Either Internet forewarding has got to be there or the whole world
must
> sit there with there eyes glued to some telnet download watching for they
> know not what. Please don't use up the satellite passes for mere
> conventional APRS unless this email forwarding feature is included because
> you will basically block out the poor slob who is in trouble with his
little
> rubber duckey who is looking for help.
>
> Thanks,
>
> Henry
> KA1RRT
>
>

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

November 1999

Original source file: aprssat.9911
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9911

1. [ao16aprs] perlAPRS

From: "Tate Jackson" <tatejackson@mindspring.com>
Date: Wed, 3 Nov 1999 8:29:12
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-47898-1999.11.03-08.42.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've read a few of the recent postings about the lone sailor
/camper overdue and lost. Seems to me that perlAPRS could come into play
here. An aprs equiped person could register at some server on the aprs
network or on the internet (like filing a flight plan) This reqistration
could then be downloaded to an APRS server running perlAPRS. When the
person didn't arrive at t his or her destinatio within a certain amount of
time after their eta, perlAPRS could send out a message to the appropiate
authorities. The camper/sailor could also send a short message via aprs if
they knew they where going to be late and wanted to update thier "plan".

This way, no one has to sit at a computer screen 24/7 waiting for
distress call.

Is something like this do-able?

Tate
N3BXZ

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] AO16/LO19/IO26 QSO party?

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Thu, 4 Nov 1999 15:33:13 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@amsat.org, TAPR APRS Special Interest Group <aprssig@tapr.org>,
        aprsnews@tapr.org
Message-ID: <LYR833-48072-1999.11.04-14.46.18--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

FOOTBALL tracking via AO16/LO19/IO26

   As a special event to exercise the live UI packet QSO capabilty via the
1200 baud pacsats, we would like to invite everyone to join us on ALL
PASSES of all 3 birds on Friday and Sat 3 and 4 Dec. THis is when we
annually use APRS to track the 150 mile running of the ARMY/Navy game
football from Annapolis MD to Philadelphia by over 100 midshipmen.

   We will be transmitting our APRS (GPS) positions and will be looking
for others on the birds. This is not something you throw together
overnight. But it is a good target date to consider dusting off your old
PSK satellite ground station and joining a live QSO event via these birds.

For those interested in live UI packet QSO's via these 1200 baud Pacsats,
come join our AO16APRS Special Interest Group by sending a subscription to
listserv@tapr.org

For details on this mode of communications via these birds, see:

   http://web.usna.navy.mil/~bruninga/traknet.html

The page will be updated as we get closer to the event... (any day
now...:-)

de WB4APR, Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

3. [ao16aprs] Re: AO16/LO19/IO26 QSO party?

From: kb2wqm@juno.com
Date: Thu, 4 Nov 1999 18:40:49 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: ao16aprs@lists.tapr.org, amsat-bb@amsat.org, aprssig@tapr.org,
aprsnews@tapr.org
Message-ID: <LYR833-48105-1999.11.04-18.00.20--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

You can count on me having my PACGATE up for the entire event. my grid is
FM29pe.

73 Jeff kb2wqm

On Thu, 4 Nov 1999 15:33:13 -0500 (EST) Bob Bruninga
<bruninga@nadn.navy.mil> writes:
> FOOTBALL tracking via AO16/LO19/IO26
>
> As a special event to exercise the live UI packet QSO capabilty
> via the
> 1200 baud pacsats, we would like to invite everyone to join us on
> ALL
> PASSES of all 3 birds on Friday and Sat 3 and 4 Dec. THis is when
> we
> annually use APRS to track the 150 mile running of the ARMY/Navy
> game
> football from Annapolis MD to Philadelphia by over 100 midshipmen.
>
> We will be transmitting our APRS (GPS) positions and will be
> looking
> for others on the birds. This is not something you throw together
> overnight. But it is a good target date to consider dusting off
> your old
> PSK satellite ground station and joining a live QSO event via these
> birds.
>
> For those interested in live UI packet QSO's via these 1200 baud
> Pacsats,
> come join our AO16APRS Special Interest Group by sending a
> subscription to
> listserv@tapr.org
>
> For details on this mode of communications via these birds, see:
>
> http://web.usna.navy.mil/~bruninga/traknet.html
>
> The page will be updated as we get closer to the event... (any day
> now...:-)
>
> de WB4APR, Bob
>
>
>
> ---
> You are currently subscribed to ao16aprs as: KB2WQM@JUNO.COM
> To unsubscribe send a blank email to
> leave-ao16aprs-833L@lists.tapr.org
>

_____
Get the Internet just the way you want it.
Free software, free e-mail, and free Internet access for a month!
Try Juno Web: http://dl.www.juno.com/dynoget/tagj.

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

4. [ao16aprs] ao16 Pass 15:40z 11-10-99 Quiet?

From: "Doug Bade" <doug@clecom.com>
Date: Wed, 10 Nov 1999 9:55:44
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-48777-1999.11.10-10.09.04--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is AO-16 transmitting on all passes? I was listening on 437.051 +_ and
021+_ and did not hear anything. I did hear wo-18 a few mins earlier.
I am experimenting with a new mobile antenna and trying to listen.
Is it digi'ing only or is there other traffic on the downlink or is it
off????I am considering setting up a satgate in Cleveland Oh. at our I-gate

site. Trying to see if I can work from mobile.. who is on if anyone?
73, Doug Bade KB8GVQ

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

5. [ao16aprs] Re: ao16 Pass 15:40z 11-10-99 Quiet?

From: "Bob Hart" <rahart@hctc.com>
Date: Wed, 10 Nov 1999 08:56:07 -0800
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-48785-1999.11.10-11.11.19--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Doug. I regularly hear AO-16 and it sounds like data is being passed. I
let the smoke out of my Pacsat TNC years ago and am not able to decode what
I hear. I have been periodically transmitting with my Manchester modified
TNC but have no idea if anyone has heard me. The only clue I would ever have
was if I were to show up on the AprsServ map.

Bob Hart, WA7HRA
Hoodsport, WA

-----Original Message-----
From: Doug Bade <doug@clecom.com>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Date: Wednesday, November 10, 1999 8:56 AM
Subject: [ao16aprs] ao16 Pass 15:40z 11-10-99 Quiet?

>Is AO-16 transmitting on all passes? I was listening on 437.051 +_ and
>021+_ and did not hear anything. I did hear wo-18 a few mins earlier.
>I am experimenting with a new mobile antenna and trying to listen.
>Is it digi'ing only or is there other traffic on the downlink or is it
>off????I am considering setting up a satgate in Cleveland Oh. at our I-gate
>site. Trying to see if I can work from mobile.. who is on if anyone?
>73, Doug Bade KB8GVQ
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] Re: ao16 Pass 15:40z 11-10-99 Quiet?

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 10 Nov 1999 12:01:45 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-48786-1999.11.10-11.15.05--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Wed, 10 Nov 1999, Doug Bade wrote:

> Is AO-16 transmitting on all passes? I was listening on 437.051 +_ and
> 021+_ and did not hear anything. I did hear wo-18 a few mins earlier.

Hummh... SHould be on all passes... at least a PSK carrier which you can
hear in your SSB receiver...

Its always on 437.051 +/-...

BOb

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

7. [ao16aprs] Re: ao16 Pass 15:40z 11-10-99 Quiet?

From: Doug Bade <doug@clecom.com>
Date: Wed, 10 Nov 1999 13:37:18 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-48796-1999.11.10-12.51.30--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Well I feel dumb, I had a bnc un-C in my antenna coax. Heard AO-16 just
fine for several minutes during last pass... Now to set up my psk modem....
BTW Tapr has a copy of the psk manual from their old kit available for ftp,
Steve Bible produced it at my request from an old copy he had. I have one
for the tnc2 family, I will get my station back on the air at my office...
The omni antenna I am playing with is a production antenna in my area. It
looks goofy looking, but claims 3db on vhf, and 6 on uhf, and only 18" tall +_.
It is three whips originating at the feed point and is absolutely flat
1.0:1 (as far as my aea antenna tester can see) at 130-170,and 400-470.....
Made by Niljon antenna's. I know a dummy load is flat too.... but this has
3 radiating elements and no caps or inductors....It would seem it has to
radiate, and it does seem to do that. preliminary tests are promising..
More later as I get operational..
        73, Doug KB8GVQ

At 12:01 PM 11/10/99 -0500, you wrote:
....
>Hummh... SHould be on all passes... at least a PSK carrier which you can
>hear in your SSB receiver...
>
>Its always on 437.051 +/-...
>
>BOb
>
>
>
>---
>You are currently subscribed to ao16aprs as: doug@clecom.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

                                        Doug Bade
                                          doug@clecom.com

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

8. [ao16aprs] NEED HELP

From: "Paul Stonestreet" <k5vas@aol.com>
Date: Wed, 17 Nov 1999 21:11:10
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-50559-1999.11.17-21.24.48--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Have PSK-1 with PK-88 and kenwood 751 that will not unkey when you turn on
the PSK-1 NEED HELP   73 Paul

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

9. [ao16aprs] Satellite Tracking Made Easy

From: "Aaron Wheeler" <kc8cal@radiotoys.com>
Date: Thu, 18 Nov 1999 21:2:2
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-50747-1999.11.18-21.15.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Found a great resourse for satellite tracking online.

http://liftoff.msfc.nasa.gov/realtime/JTrack/Amateur.html

Realtime Java Satellite Tracking.
Very Cool.

aaron. (KC8CAL)

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

10. [ao16aprs] Re: AO16/LO19/IO26 QSO party?

From: "Tim Cunningham" <tim_cunningham@mindspring.com>
Date: Tue, 23 Nov 1999 07:45:22 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <amsat-bb@amsat.org>,
        "TAPR APRS Special Interest Group" <aprssig@tapr.org>,
        <aprsnews@tapr.org>
Message-ID: <LYR833-51545-1999.11.23-07.59.46--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I will have my PacSat station activated for the FOOTBALL tracking
event. It will be linked to RF as well as the Internet for the weekend.

73's
Tim - N8DEU

-----Original Message-----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Cc: amsat-bb@amsat.org <amsat-bb@amsat.org>; TAPR APRS Special Interest
Group <aprssig@tapr.org>; aprsnews@tapr.org <aprsnews@tapr.org>
Date: Thursday, November 04, 1999 2:33 PM
Subject: [ao16aprs] AO16/LO19/IO26 QSO party?

>FOOTBALL tracking via AO16/LO19/IO26
>
>   As a special event to exercise the live UI packet QSO capabilty via the
>1200 baud pacsats, we would like to invite everyone to join us on ALL
>PASSES of all 3 birds on Friday and Sat 3 and 4 Dec. THis is when we
>annually use APRS to track the 150 mile running of the ARMY/Navy game
>football from Annapolis MD to Philadelphia by over 100 midshipmen.
>
>   We will be transmitting our APRS (GPS) positions and will be looking
>for others on the birds. This is not something you throw together
>overnight. But it is a good target date to consider dusting off your old
>PSK satellite ground station and joining a live QSO event via these birds.
>
>For those interested in live UI packet QSO's via these 1200 baud Pacsats,
>come join our AO16APRS Special Interest Group by sending a subscription to
>listserv@tapr.org
>
>For details on this mode of communications via these birds, see:
>
>   http://web.usna.navy.mil/~bruninga/traknet.html
>
>The page will be updated as we get closer to the event... (any day
>now...:-)
>
>de WB4APR, Bob
>
>
>
>---
>You are currently subscribed to ao16aprs as: tim_cunningham@mindspring.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

December 1999

Original source file: aprssat.9912
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.9912

1. [ao16aprs] Football Tracking and QSO party

From: Charles Richard <w4hfz@sprynet.com>
Date: Fri, 03 Dec 1999 22:43:09 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-53076-1999.12.03-21.59.48--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I was up for the 2200 EST AO-16 pass along the east coast. Copied 12
packets from WB4APR and the Army-Navy Football Run Team, plus one other
from N5ZNL.

Running WinAprs, packets were Igated to APRS TCP/IP. Good signals from
the bird.

73 de Chas, W4HFZ, FN31xk in Southeast CT.

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To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] beaconing

From: "Anna Carolyn Osborn" <ws4z@amsat.org>
Date: Sat, 4 Dec 1999 14:5:28
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-53222-1999.12.04-14.19.51--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello group, I think I've seen this on the list but, when using
 AO-16 how do you set the tnc to beacon when the tnc is hearing
 the down link signal all the time? I'm using a psk modem and a
 packet program (winpack).Does the same in APRS. Thanks 73.
Anna ws4z@amsat.org

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

3. [ao16aprs] AO16/LO19/IO26 APRS QSO Party, Results

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 4 Dec 1999 15:21:29 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: TAPR APRS Special Interest Group <aprssig@tapr.org>, aprsnews@tapr.org,
        ao16aprs@tapr.org
Message-ID: <LYR833-53228-1999.12.04-14.36.30--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Satellite Buffs, and Digital Mobile operators,

Here is a quick summary of the APRS PACSAT QSO party conducted 4 Dec on
the three 1200 Baud PACSATS (I haven't finished the 3 Dec results yet).
During 5 passes over 400 UI packets were exchanged with at least 13
stations seen (even while 6 stations were logged on and downloading PACSAT
Protocol). All downlink packets were also linked into the worldwide
APRServe internet system.

APRS/UI STATIONS: WB4APR, KB2WQM, KA2UPW, N8DEU, N5ZNL, K5QXJ, W4HFZ
PACSAT USERS: W4MO, VE3FRH, VE2KAD, N8ULD, TG9IKE, K0RZ

One station, KA2UPW was using only a sound card on his PC to generate the
necessary MANCHESTER uplink. N8DEU was using the WB4APR suggested $3
modified TAPR-2 TNC. Others were using PACSAT TNC's and APRSdos, APRSplus
or WinAPRS and some with just terminal software. The sound card method or
$3 mod makes it possible for anyone with a laptop and a 2m radio to uplink
while mobile.

With 3 satellites, ALL with uplinks on 145.90, (I was running only 20
watts into a mobile WHIP antenna!) there is great potential
for providing mobile APRS POSITION/STATUS reporting for travelers via
satellite. For example, the orbits of these birds gives the following
coverage pattern everywhere (local sun time):

DAY: 0930-1230 About 7 or 8 passes lasting 8-15 minutes each

NITE: 1930-0030 About 7 or 8 passes lasting 8-15 minutes each

Now all we need is someone to write the 1200 baud PSK downlink modem in
software for a sound card, and then these 9 year old satellites will be
VERY USABLE again... for amateur mobile digital communications.

NOTES: The throughput of these 1200 baud satellites can be an order of
magnitude greater than terrestrial systems for several reasons:

   1) Each has 4 simultaneous receivers. Thus even with only a 25%
      success rate on each uplink, the downlink can be kept full
   2) Since everyone hears the satelite direct, there need be only
      ONE digipeater hop, instead of the 3 or more duplications on
      the ground
   3) Since the satelite is crossband full duplex, the downlink is
      on 100% of the time instead of the maximum 50% for a simplex digi.

Thus, the birds could handle many hundreds of stations per pass per
satellite! Right now, LO19 and IO26 are 100% dedicated to UI or APRS
digipeating. AO16 is shared, since its PACSAT BBS is still functional and
usually has a few users on the weekends...

I will post the results on our TRAKNET web page so you can browse the
captured files if you are interested:

    http://web.usna.nadn.mil/~bruninga/traknet.html

P.S. This test was conducted in conjunction with the annual APRS/GPS
tracking and communications support of the Naval Academy's running of
the Army/Navy game football from Annapolis to Philadelphia.

To those that participated, thanks for all your work!
de WB4APR, Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

4. [ao16aprs] Re: beaconing

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 4 Dec 1999 15:24:38 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-53229-1999.12.04-14.39.11--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

ARGH! Anna, Now i see that I also had captured a packet from you too.!
SOrry I forgot to put it on the list. It will be added to the web page...

bob

On Sat, 4 Dec 1999, Anna Carolyn Osborn wrote:

> Hello group, I think I've seen this on the list but, when using
> AO-16 how do you set the tnc to beacon when the tnc is hearing
> the down link signal all the time? I'm using a psk modem and a
> packet program (winpack).Does the same in APRS. Thanks 73.
> Anna ws4z@amsat.org
>
>
> ---
> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

5. [ao16aprs] Pacsat Setup?

From: "Bob Lovell" <kc0efc@amsat.org>
Date: Sun, 5 Dec 1999 13:4:14
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-53387-1999.12.05-13.18.41--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm new to the group and wish to know where I can learn about setting up my
Kantronics KAM to access these Pacsat birds.

73' Bob / KC0EFC

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] 'soundmodem' 1200 PSK downlink? [was "AO16/LO19/IO26 APRS QSO Party, Results"]

From: John Mock <kd6pag@qsl.net>
Date: Mon, 6 Dec 1999 00:33:51 -0800 (PST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: aprssig@tapr.org, aprsnews@tapr.org, ao16aprs@tapr.org
Message-ID: <LYR833-53520-1999.12.06-02.49.00--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Now all we need is someone to write the 1200 baud PSK downlink modem in
    software for a sound card, and then these 9 year old satellites will be
    VERY USABLE again... for amateur mobile digital communications.

I would like someone to elmer me through that process for LINUX. I already
have a test bed for 'soundmodem' drivers, so i don't have to tests things at
the kernel level if i don't want to (even if that is the mode i'm used to).
I've done much more with sound synthesis algorithms than analysis, but the
concepts are familiar to me. Please write me if you (or someone you know)
can help me get this going.

                      -- KD6PAG (Networking Old-Timer, Satellite QRPer)

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

January 2000

Original source file: aprssat.0001
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.0001

1. [ao16aprs] TRAK Net

From: "Tate Jackson" <tatejackson@mindspring.com>
Date: Wed, 5 Jan 2000 10:27:58
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-58384-2000.01.05-10.43.55--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I followed the APRS TRAKNet Experiements with great interest. Now that we
have see that we can do APRS thru the 1200 baud birds, is anyone monitoring
the birds for aprs packets.

I'm going on a mountian biking trip in the deserts of Utah this coming May
and I would like to play with APRS vis Satellite while I'm biking around.

Tate
N3BXZ

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

2. [ao16aprs] TMD700 Satellite work?

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 12 Jan 2000 22:41:05 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-60131-2000.01.12-21.57.32--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How many of you on this list have a TMD700 in hand?
Reply direct, thanks...

Bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

3. [ao16aprs] Re: TMD700 Satellite work?

From: "Henry Moseley" <hmose@sover.net>
Date: Fri, 14 Jan 2000 08:16:33 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-60444-2000.01.14-07.50.57--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Is the TMD700 available in stores or by special order?? Are the one's on
hand the result of a testing program?? Where can I get one???

Henry

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

4. [ao16aprs] Re: TMD700 Satellite work?

From: "myoung" <myoung@neo.rr.com>
Date: Fri, 14 Jan 2000 12:31:00 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-60480-2000.01.14-11.47.46--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

At 08:16 AM 1/14/00 , you wrote:
>Is the TMD700 available in stores or by special order?? Are the one's on
>hand the result of a testing program?? Where can I get one???
>
>Henry

Henry, I got mine from Denver Radio in PA. They have one of the lowest
prices (649.00) and great service from a professional staff. As of Monday

they had several left....

1-800-891-9199 or

denverradio.com

Good Luck,

Mike, WB8CXO

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

5. [ao16aprs] rs-232 interface ts-790

From: "Schayk A.H. van" <A.H.Schayk@arcadis.nl>
Date: Mon, 17 Jan 2000 15:09:27 +0100
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-60965-2000.01.17-08.26.46--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi

Does anyone know the pinout of the serial connecter of the ts-790.
I want to control the tuning from my computer but i can't find the info in
the manual.

73 de Andre PE1RDW

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

6. [ao16aprs] Re: rs-232 interface ts-790

From: jbblack@mindspring.com
Date: Mon, 17 Jan 2000 16:32:40 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-61051-2000.01.17-16.49.09--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I'm not a TS-790 user, but if the interface is *indeed* RS-232, all you
should need are pins 2, 3, and 7 (TxD, RxD, GND).

73,
Joel, K2SAT

----- Original Message -----
From: Schayk A.H. van <A.H.Schayk@arcadis.nl>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Monday, January 17, 2000 8:09 AM
Subject: [ao16aprs] rs-232 interface ts-790

> Hi
>
> Does anyone know the pinout of the serial connecter of the ts-790.
> I want to control the tuning from my computer but i can't find the info in
> the manual.
>
> 73 de Andre PE1RDW
>
> ---
> You are currently subscribed to ao16aprs as: jbblack@mindspring.com
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

7. [ao16aprs] RE: TMD700 Satellite work?

From: "Steck, Jim [C]" <SteckJ@nima.mil>
Date: Tue, 18 Jan 2000 06:21:32 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-61234-2000.01.18-05.38.08--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

I have a TM-D700a and a TH-7D, a Garmin III+. (Santa was good to me !!)
73's
Jim.

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

8. [ao16aprs] 9600 baud operations.

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 19 Jan 2000 11:47:13 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-61476-2000.01.19-11.03.44--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

With the emminenet launch of some more 9600 baud birds and some other
ideas/experiments in progress, Im going to ask TAPR to rename this sig
from the AO16APRS sig to the APRSAT sig.

You wont need to do anything, it is just a name change.

But IF you currently have 9600 baud PACSAT capability, or if you recently
picked up the Kenwood TMD700 then please contact me by return EMail.

Thanks, Bob, wb4apr

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

9. [ao16aprs] Re: 9600 baud operations.

From: "Anna Carolyn Osborn" <acosborn@wireco.net>
Date: Wed, 19 Jan 2000 20:01:01 -0000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-61508-2000.01.19-14.17.44--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bob, I am on the pacsat 9600 satellites 73
Anna Osborn   ws4z@amsat.org
Amsat LM 1298A
----- Original Message -----
From: Bob Bruninga <bruninga@nadn.navy.mil>
To: TAPR AO-16 APRS Special Interest Group <ao16aprs@lists.tapr.org>
Sent: Wednesday, January 19, 2000 4:47 PM
Subject: [ao16aprs] 9600 baud operations.

> With the emminenet launch of some more 9600 baud birds and some other
> ideas/experiments in progress, Im going to ask TAPR to rename this sig
> from the AO16APRS sig to the APRSAT sig.
>
> You wont need to do anything, it is just a name change.
>
> But IF you currently have 9600 baud PACSAT capability, or if you recently
> picked up the Kenwood TMD700 then please contact me by return EMail.
>
> Thanks, Bob, wb4apr
>
>
>
> ---
> You are currently subscribed to ao16aprs as: ws4z@amsat.org
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

10. [ao16aprs] 1200 baud Birds

From: "Tate Jackson" <tatejackson@mindspring.com>
Date: Thu, 20 Jan 2000 14:54:29

To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-61731-2000.01.20-14.51.07--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Are there anymore 1200 baud pacsats. ao-16 is offline and according to
amsats webpage, most of the other 1200 baud pacsats are offline or soon to
be. Is i worth building a 1200 baud pacsat station?

73's

Tate
N3BXZ

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

11. [ao16aprs] RE: 9600 baud operations.

From: Nick Pugh <nickpugh@mindspring.com>
Date: Fri, 21 Jan 2000 03:53:28 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-61896-2000.01.21-12.11.05--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

hi bob i check in on the 1200&and 9600 sat most weekends
nick k5qxj

From: Bob Bruninga[SMTP:bruninga@nadn.navy.mil]
Reply To: TAPR AO-16 APRS Special Interest Group
Sent: 19 January 2000 10:47
To: TAPR AO-16 APRS Special Interest Group
Subject: [ao16aprs] 9600 baud operations.

With the emminenet launch of some more 9600 baud birds and some other
ideas/experiments in progress, Im going to ask TAPR to rename this sig
from the AO16APRS sig to the APRSAT sig.

You wont need to do anything, it is just a name change.

But IF you currently have 9600 baud PACSAT capability, or if you recently
picked up the Kenwood TMD700 then please contact me by return EMail.

Thanks, Bob, wb4apr

You are currently subscribed to ao16aprs as: nickpugh@mindspring.com
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

12. [ao16aprs] aprs sat

From: byron devine <byrdev@bestonline.net>
Date: Sat, 22 Jan 2000 14:08:39 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-62058-2000.01.22-15.40.58--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i have a pk12 tnc what mods do i need to use it for 1200 baud sats
also if any of you have palmtops like the hc4100 or any thing that
is considered a hppc i got dos aprs to work on it maybe a diffrent way
of doing it but if there is let me know

but i would like the mod if there is one and if there is can it be made switchable

tnx de kb9lnc
byron devine

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

13. [ao16aprs] Re: aprs sat

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 22 Jan 2000 19:06:48 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-62069-2000.01.22-18.03.41--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sat, 22 Jan 2000, byron devine wrote:

> i have a pk12 tnc what mods do i need to use it for 1200 baud sats
> also if any of you have palmtops like the hc4100 or any thing that
> is considered a hppc i got dos aprs to work on it maybe a diffrent way
> of doing it but if there is let me know
>
> but i would like the mod if there is one and if there is can it be made switchable

No. Must be a TAPR-2 clone, and then it is only an UPLINK mod. Yes,
swithcible with an SPDT switch. Best info see:

http://web.usna.navy.mil/~bruninga/traknet.html
de WB4APR

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

14. [ao16aprs] UO-22 0125Z Pass

From: jbblack@mindspring.com
Date: Sat, 22 Jan 2000 19:42:52 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-62096-2000.01.22-19.39.57--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Copied the following during the 0125Z pass of UO-22 tonight:

    K5WH-14
    N5SUB
    KB2WQM-7

Am wondering if anyone is seeing my position as my "STA" light stays lit as
if data is in the TNC buffer but not being transmitted.

73,
Joel

OM: Joel B. Black, K2SAT   XYL: Kristie H. Black, KF4CHN
Eutaw, AL.............EM62   kahblack@mindspring.com
AMSAT member #32589
AMSAT Local Area Coordinator
www.mindspring.com/~jbblack
jbblack@mindspring.com
k2sat@amsat.org
AO-10, AO-27, FO-20, FO-29
UO-22, KO-25

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

15. [ao16aprs] aprs software

From: byron devine <byrdev@bestonline.net>
Date: Sun, 23 Jan 2000 19:12:16 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-62263-2000.01.23-18.11.21--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

does anybody know of aprs stuff for the hppc or windows ce 2.0 with mips processor tnx
byron kb9lnc

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

16. [ao16aprs] Re: 1200 baud Birds

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 28 Jan 2000 08:21:56 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63001-2000.01.28-07.18.55--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Thu, 20 Jan 2000, Tate Jackson wrote:

> Are there anymore 1200 baud pacsats. ao-16 is offline and according to
> amsats webpage, most of the other 1200 baud pacsats are offline or soon to
> be. Is i worth building a 1200 baud pacsat station?

Well, I been talking about using them for 2 years now. and it works, but
we seem to only have a small handful of stations and unless there is a
"mission" or something worth tracking, then we dont have critical mass of
interest to man up the downlink... But there are 3 birds on orbit that
work perfectly fine. (AO16 is off doing S band stuff.)

But if I had soething I HAD to track cross country or across the oceans,
or Canada, or ALASKA, then I woiuld certainly use these birds. But I
woiuld probably have to man the downlink myself or ask someone else to do
it during the "event"..

bob

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

17. [ao16aprs] Re: 1200 baud Birds

From: Doug Bade <doug@clecom.com>
Date: Fri, 28 Jan 2000 14:10:27 +0000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63007-2000.01.28-08.07.47--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello Bob and sig. I own a complete leo sat tracking station, beams,
rotor, Yaesu ft736 2m/440/6m/220 and KC tuner/tracker which I would gladly
donate to the permanent tracking job. Scheduling control is easy these
days. The problem is I lost my Yard where I could run this station. It is
currently in storage. I am trying to locate a site to reconstruct it here
in Cleveland Ohio area, but my current house and my upcoming new house it
is not an option. Connectivity is a problem at all the remote sites I have
that are available. If someone has some pull here in this area at some
place we can build and get connectivity I am willing to cooperate...

        Any Idea's ?????????????
                                        73, Doug kb8gvq

At 08:21 AM 1/28/00 -0500, you wrote:
>On Thu, 20 Jan 2000, Tate Jackson wrote:
>
>> Are there anymore 1200 baud pacsats. ao-16 is offline and according to
>> amsats webpage, most of the other 1200 baud pacsats are offline or soon to
>> be. Is i worth building a 1200 baud pacsat station?
>
>Well, I been talking about using them for 2 years now. and it works, but
>we seem to only have a small handful of stations and unless there is a
>"mission" or something worth tracking, then we dont have critical mass of
>interest to man up the downlink... But there are 3 birds on orbit that
>work perfectly fine. (AO16 is off doing S band stuff.)
>
>But if I had soething I HAD to track cross country or across the oceans,
>or Canada, or ALASKA, then I woiuld certainly use these birds. But I
>woiuld probably have to man the downlink myself or ask someone else to do
>it during the "event"..
>
>bob
>
>
>
>
>---

>You are currently subscribed to ao16aprs as: doug@clecom.com
>To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

Doug Bade
doug@clecom.com

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

18. [ao16aprs] Re: 9600 baud birds and ASTARS

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 28 Jan 2000 10:41:32 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@amsat.org
Message-ID: <LYR833-63023-2000.01.28-09.38.34--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Fri, 28 Jan 2000, Doug Bade wrote:

> Hello Bob and sig. I own a complete leo sat tracking station, beams,
> rotor, Yaesu ft736 2m/440/6m/220 and KC tuner/tracker ... The problem is
> I lost my Yard ... but my current house and my upcoming new house it
> is not an option....

You can still contribute. Remember, that ANY packet captured by anyone
on the downlink and fed into APRServe contributes to the big picture.
You can still set up your station with an invisible 19" whip (3/4
wavelength whip on 435) on your roof over a groundplane and capture
packets for at least 2 passes per day per bird for the central 2 minutes.
This is a great contribution! AND there is no wear-n-tear on any motors.

If we had enough of these uplooking OMNI stations, then we wouldnt need
anyone wearing out their rotors and motors... :-)

The key to ASTARS is the linking together by the internet APRServe (And
automatic dupe-elimination) which doesn't care where the packet came from.
But then everyone on APRserve sees one copy of every packet received...!

de WB4APR, Bob

ASTARS Concept: http://web.usna.navy.mil/~bruninga/astars.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

19. [ao16aprs] Re: 9600 baud birds and ASTARS

From: "Darrell Sutton" <dsutton2@home.com>
Date: Fri, 28 Jan 2000 20:22:17 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63163-2000.01.28-19.19.31--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

bob forgive me i was reading your message about the sats and omni ant and
things... am I understanding that a station wuld monitor the435 freq bring
the data and sned back overto net

I haven't made the baycom work yet but if I do and I use a radio or monitor
on the freq then i could transfer it over Right??

if so the Baycom and or soundcard would make for great combo for the OMNI
network pretty cheap to put on line
thus your vison of many picking up the sats would be easy to happen ..

KF4HJW-10 APRS DIGI TOANO VA
PACKET ADDRESS
KF4HJW@KF4HJW.#TIDE.VA.US.NOAM
WWW.QSL.NET/KF4HJW
SIGN UP FOR VA AREA APRS NEWS
APRSVA@ONELIST.COM
VISIT WWW.ARESVA.ORG FOR THE LATEST ARES/RACES NEWS

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

20. [ao16aprs] Re: 9600 baud birds and ASTARS

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 28 Jan 2000 20:26:42 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63164-2000.01.28-19.23.45--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, but we are talking 9600 baud here. Baycoms dont do that do they?
bob

On Fri, 28 Jan 2000, Darrell Sutton wrote:

> bob forgive me i was reading your message about the sats and omni ant and
> things... am I understanding that a station wuld monitor the435 freq bring
> the data and sned back overto net
>
> I haven't made the baycom work yet but if I do and I use a radio or monitor
> on the freq then i could transfer it over Right??
>
> if so the Baycom and or soundcard would make for great combo for the OMNI
> network pretty cheap to put on line
> thus your vison of many picking up the sats would be easy to happen ..
>
>
>
>   KF4HJW-10 APRS DIGI TOANO VA
>   PACKET ADDRESS
> KF4HJW@KF4HJW.#TIDE.VA.US.NOAM
>   WWW.QSL.NET/KF4HJW
>   SIGN UP FOR VA AREA APRS NEWS
>   APRSVA@ONELIST.COM
> VISIT WWW.ARESVA.ORG FOR THE LATEST ARES/RACES NEWS
>
>
> ---
> You are currently subscribed to ao16aprs as: BRUNINGA@NADN.NAVY.MIL
> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

21. [ao16aprs] Re: 9600 baud birds and ASTARS

From: "Darrell Sutton" <dsutton2@home.com>
Date: Sat, 29 Jan 2000 08:41:10 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63234-2000.01.29-07.38.44--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

MY GOOF   Your are right bob only 1200

         KF4HJW-10 APRS DIGI TOANO VA
                       PACKET ADDRESS
KF4HJW@KF4HJW.#TIDE.VA.US.NOAM
                 WWW.QSL.NET/KF4HJW
    SIGN UP FOR VA AREA APRS NEWS
                 APRSVA@ONELIST.COM
 VISIT WWW.ARESVA.ORG FOR THE LATEST ARES/RACES NEWS

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

22. [ao16aprs] Re: 9600 baud birds and ASTARS

From: "Tate Jackson" <tatejackson@mindspring.com>
Date: Sat, 29 Jan 2000 14:33:21
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63289-2000.01.29-14.30.29--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anybody tried one of the eggbeater type antenna for monitoring the
downlink. What about a helix? It seems to me that if we are talking about
a base station that monitors downlinks, why settle for the middle 2
minutes of a pass.
These antenna my require a more intial effort to put up, but we could sure
get a lot more packets into the system.

Just a thought

Tate
N3BXZ

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

23. [ao16aprs] Re: 9600 baud birds and ASTARS

From: Henry Moseley <hmose@yahoo.com>
Date: Sat, 29 Jan 2000 16:15:06 -0800 (PST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63331-2000.01.29-18.12.13--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yea, an eggbeater is a fine antenna. It might change
the middle two minutes to the middle four or five
minutes, which could be a lot of lost campers.

Henry
KA1RRT
_____
Do You Yahoo!?
Talk to your friends online with Yahoo! Messenger.
http://im.yahoo.com

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

24. [ao16aprs] FAQ on A0-16 Setup??

From: Jack Chomley <chomley@telelink.com.au>
Date: Sun, 30 Jan 2000 11:03:07 +1000
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63336-2000.01.29-18.46.09--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hi Listers,

Can someone please direct me to any FAQ's to help me setup
for APRS on A0-16.

Jack Chomley
VK4JRC

You are currently subscribed to ao16aprs as: lyris.ao16aprs@tapr.org
To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org

25. [ao16aprs] Re: FAQ on A0-16 Setup??

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Sat, 29 Jan 2000 19:53:56 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-63337-2000.01.29-18.51.02--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

On Sun, 30 Jan 2000, Jack Chomley wrote:

> Can someone please direct me to any FAQ's to help me setup
> for APRS on A0-16.

http://web.usna.navy.mil/~bruninga/traknet.html

Or, if you are 9600 baud capable see the same page but astars.html

de WB4APR, Bob

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February 2000

Original source file: aprssat.0002
Source: http://ftp.tapr.org/tapr_history/SIG_Archives/aprssig/aprssat/aprssat.0002

1. [ao16aprs] 9600 Baud

From: "Tate Jackson" <tatejackson@mindspring.com>
Date: Thu, 3 Feb 2000 22:1:7
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-64353-2000.02.03-21.58.51--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I've been reading a past edition of ARRL's Satellite Anthology. There was
a great article about a low cost 9600 baud satellite station.

Mt question is, how critical is it to adjust for doppler shift on the
uplink and the downlink? Can one get away with leaving both the
transmitter and reciever on the nominal frequency?

Tate
N3BXZ

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2. [ao16aprs] ao16

From: byron devine <byrdev@bestonline.net>
Date: Thu, 3 Feb 2000 23:09:19 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-64358-2000.02.03-22.08.07--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

i heard on the local 2 meter net tonight that ao16 is doa
hope not just palced order for new packet station

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3. [ao16aprs] PACSAT

From: "Tate Jackson" <tatejackson@mindspring.com>
Date: Thu, 3 Feb 2000 22:29:54
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-64360-2000.02.03-22.27.19--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

How critical is it to adjust for Doppler shift on the uplink and/or
downlink of the 9600 baud pacsats. Could one set the transmitter and
receiver on the nominal frequency and still copy transmit and receive small
files and APRS position reports?

Tate
N3BXZ

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4. [ao16aprs] Re: PACSAT

From: Mike Gilchrist <kf4fdj@amsat.org>
Date: Fri, 04 Feb 2000 08:02:59 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: amsat-bb@amsat.org
Message-ID: <LYR833-64420-2000.02.04-07.00.37--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Tate,

At 10:29 PM 02/03/2000 +0000, you wrote:
>How critical is it to adjust for Doppler shift on the uplink and/or
>downlink of the 9600 baud pacsats. Could one set the transmitter and
>receiver on the nominal frequency and still copy transmit and receive small
>files and APRS position reports?

It all depends on pass band widths. If the 2 m receiver is sufficiently
wide to allow an off frequency signal into the pass band, then you don't
need to correct on the uplink. Fortunately, the pacsat receivers are
sufficiently wide.

2 m Doppler shift is around 3 kHz, while 70 cm Doppler can be around 10 kHz.

So, you must correct for YOUR receive on the downlink. Since Doppler can
be 10 kHz high at the beginning of the pass, and 10 kHz low at LOS, that is
a 20 kHz spread. Since a properly deviating 9k6 signal will occupy 20 kHz
of bandwidth, your receiver must pass more than 30 kHz of signal to capture
the coherence. What is the bandwidth selectivity of your rig on 70 cm?

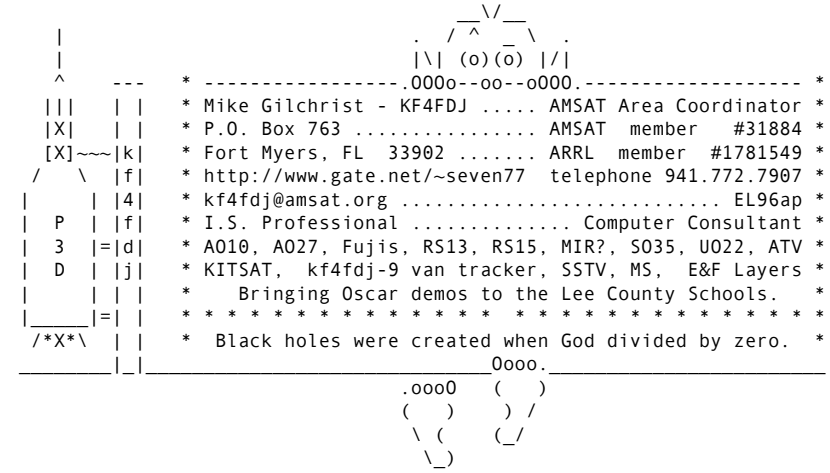
In practice, it is a good idea to correct both for uplink and downlink on
the pacsats. You could program non-standard splits in your rig, and just
tune frequency pairs as the pass progresses. On 2 meters, 5 khz low at the
beginning of the pass, right on frequency at the middle, and 5 kHz high
towards LOS will suffice, if your rig will only tune in 5 kHz steps.

Here is a suggested table of frequencies to program into your dual band rig
for UO-22.

Downlnk - Uplink
____
435.130 - 145.895
435.125 - 145.900
435.120 - 145.900 Mid Pass
435.115 - 145.900
435.110 - 145.905

I hope this helps a little.

73, Mike


* Mike Gilchrist - KF4FDJ ..... AMSAT Area Coordinator *
* P.O. Box 763 ..... AMSAT member   #31884 *
* Fort Myers, FL 33902 ..... ARRL member #1781549 *
* http://www.gate.net/~seven77 telephone 941.772.7907 *
* kf4fdj@amsat.org ..... EL96ap *
* I.S. Professional ..... Computer Consultant *
* AO10, AO27, Fujis, RS13, RS15, MIR?, SO35, UO22, ATV *
* KITSAT, kf4fdj-9 van tracker, SSTV, MS, E&F Layers *
*   Bringing Oscar demos to the Lee County Schools.   *
* Black holes were created when God divided by zero. *

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5. [ao16aprs] TM-D700a remote control

From: "Jim Gill" <jimgill@ix.netcom.com>
Date: Fri, 4 Feb 2000 07:31:18 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-64424-2000.02.04-07.29.06--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

I have been sending a lot of this information to the HTAPRS list, but it
occurs to me that it is applicable to this satellite sig also. I have been
doing a lot of research on remote-controlling the TMD700 Kenwood radios.

The bulk of my work is posted at http://www.netcom.com/~jimgill/tmd700a.htm
, and I found a few more "must-have" APRS mode nuggets this morning. Send
these to the serial port at 9600,8,n,1 while in APRS mode.

DTX 0   manual packet tx
DTX 1   PTT packet tx
DTX 2   AUTO packet tx

BCN 0 turns off beaconing if on AUTO
BCN 1 either turns on beaconing if in AUTO
or
BCN 1 **sends a beacon when in manual mode!** then returns to BCN 0.

Fabulous stuff for your remote control software projects. Still have the
problem though of DCD sense to figure out when in automatic mode. More on
that later.

I will continue to add research updates to my website, comments/suggestions
welcome direct or by sig.

Thanks, Jim N0RMO
Omaha, Nebraska
jimgill@ix.netcom.com

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6. [ao16aprs] Re: PACSAT

From: "Jim Gill" <jimgill@ix.netcom.com>
Date: Fri, 4 Feb 2000 07:50:40 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <amsat-bb@amsat.org>, "Mike Gilchrist" <kf4fdj@amsat.org>
Message-ID: <LYR833-64429-2000.02.04-07.48.40--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

----- Original Message -----
From: "Mike Gilchrist" <kf4fdj@amsat.org>
> In practice, it is a good idea to correct both for uplink and downlink on
> the pacsats. You could program non-standard splits in your rig, and just
                                    ^^^^^^^^^^^^^^^^^^^^^^

> tune frequency pairs as the pass progresses.
        ^^^^^^^^^^^^

Mike, I'm not sure if you're suggesting that possibly a radio like the
Kenwood TMD700a could store both the up and downlink (different bands) into
one memory using non-standard splits, and switch between these
pre-programmed up/down sets, or that you would simply have some VHF
and UHF memories ("pairs") seperately programmed, and you would have to tune
each side as the pass progresses.

I can't find a way to program a single memory in the TMD700 with a VHF
transmit and a UHF receive. Otherwise, for standalone use, I'm looking at a
remote-control solution to have a computer switch the TNC to remote control
mode, tune the VFO's, then switch back to the TNC. It looks like this could
be done in less than a second on the TMD700.

> Downlnk - Uplink
> _________________
> 435.120 - 145.900 Mid Pass
etc etc

Thanks

Jim Gill N0RMO
Omaha NE

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7. [ao16aprs] Re: 9600 Baud

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Fri, 4 Feb 2000 09:04:40 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-64432-2000.02.04-08.02.11--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Yes, but look at the doppler rates shown by your trackihng program. How
long is the bird within 3 KHz of center freq? About 2 to 4 minutes only

out of a 15 minute pass. So yes it will work. But you sont get but 1/4th
to 1/8th of the data...

bob
 On Thu, 3 Feb 2000, Tate Jackson wrote:

> I've been reading a past edition of ARRL's Satellite Anthology. There was
> a great article about a low cost 9600 baud satellite station.
>
> Mt question is, how critical is it to adjust for doppler shift on the
> uplink and the downlink? Can one get away with leaving both the
> transmitter and reciever on the nominal frequency?
>
> Tate
> N3BXZ
>
> ---
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> To unsubscribe send a blank email to leave-ao16aprs-833L@lists.tapr.org
>
>

APRSdos REPLY/COMMENT:

Reply mail addr: wb4apr@amsat.org
US mail address: 115 old Farm Ct, Glen Burnie, MD 21060
See DAYTON97 HISTORY: http://web.usna.navy.mil/~bruninga/dayton.html
See Maryland APRS LIVE: http://web.usna.navy.mil/~bruninga/aprs.html
See GPS on ANY radio: http://www.tapr.org/tapr/html/mic-e.html

---
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8. [ao16aprs] Re: PACSAT

From: Mike Gilchrist <kf4fdj@amsat.org>
Date: Fri, 04 Feb 2000 09:43:24 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <amsat-bb@amsat.org>
Message-ID: <LYR833-64435-2000.02.04-08.41.06--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Jim,

At 07:50 AM 02/04/2000 -0600, Jim Gill wrote:
>----- Original Message -----
>From: "Mike Gilchrist" <kf4fdj@amsat.org>
> > In practice, it is a good idea to correct both for uplink and downlink on
> > the pacsats. You could program non-standard splits in your rig, and just
>   ^^^^^^^^^^^^^^^^^^^^^
>
> > tune frequency pairs as the pass progresses.
>   ^^^^^^^^^^^^
>
>Mike, I'm not sure if you're suggesting that possibly a radio like the
>Kenwood TMD700a could store both the up and downlink (different bands) into
>one memory using non-standard splits, and switch between these
>pre-programmed up/down sets, or that you would simply have some VHF
>and UHF memories ("pairs") seperately programmed, and you would have to tune
>each side as the pass progresses.

Most contemporary dual band radios have the ability to program non-standard
splits, including transmit/receive in different bands. Even the Alinco
DJ-G1T 2 m HT, which is only a 2 m rig, will receive on 70 cm, and allow
you to program non-standard splits, including transmit/receive on different
bands. Stock, it will not tune below 440 kHz, but there is a mod on
http://www.mods.dk which involves pressing 3 keys to "open" the receive to
include the Oscar subband.

I program non-standard pairs in my Yaesu FT50 for working AO-27 and
SO-35. However, since neither of my HTs are full duplex, this technique
only works in half duplex rigs.

There might be an error in my logic with the Kenwood rig, since I assume
it's using separate VFOs. My post was mostly a result of brainstorming,
where I am considering using an old Yaesu FT5100 for the pacsats.

There is a mod for 9k6 packet on the aforementioned site, and the rig has a

function called, "Alternating Band Memory Selection," where mic clicks can
select programmed memories from either band/VFO.

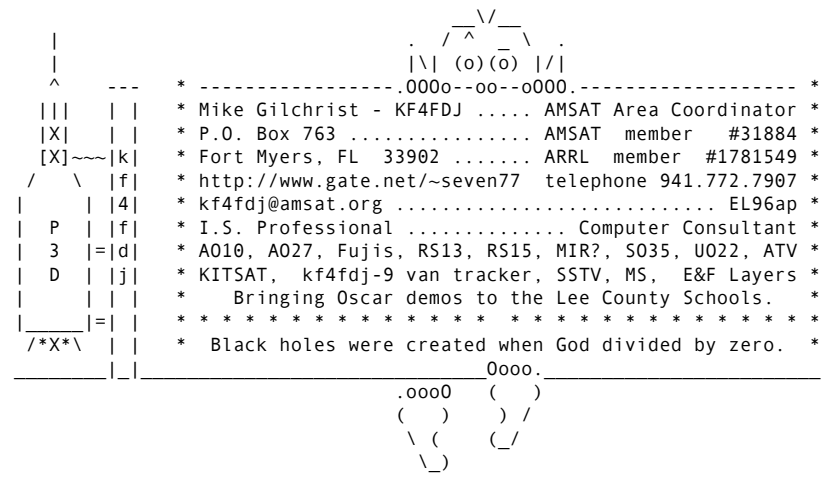
I think, and again I'm just brainstorming here, InstanTrack, in conjunction
with Tony's (AA2TX) InstanTune, which will operate a rig through the mic
click interface, would work for the pacsats.

Both programs are available for download from the AMSAT site, under PC
software: http://www.amsat.org/amsat/ftpsoft.html#pc.

I don't own a TMD700, and haven't had occasion to play with one either, so
I can't comment. If you'd like to send me your's, say for a few months,
I'd play with it and get back to you! :-)

I'm sure I'll be corrected if it's been done, but I don't think anyone has
been successful using that particular rig to effect a two-way communication
with UO-22, although Jeff, KB2WQM HAS digipeated several messages to me
through UO-22, a pacsat gateway, APRS, and into the Internet. Several
great minds, including Jeff, are working on it. Stay tuned.

73, Mike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* Bringing Oscar demos to the Lee County Schools. *
* Black holes were created when God divided by zero. *

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9. [ao16aprs] D7 Test today

From: "Clayton Watson" <kb0wzi@atlascomm.net>
Date: Mon, 7 Feb 2000 12:02:54 -0600
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-64904-2000.02.07-11.59.42--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Hello SIG,

Looking forward to testing the D7 out on todays passes.

Clayton Watson

Southwest Missouri APRS Community
www.qsl.net/smac
kb0wzi@arrl.net

Remeber: If it ain't broke, you're not trying!!!

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10. [ao16aprs] Satellites

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 23 Feb 2000 10:04:51 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Message-ID: <LYR833-67538-2000.02.23-09.06.36--lyris.ao16aprs#tapr.org@lists.tapr.org>

Rendered body type: text/plain

New Satellite Excitement for the Mobile FM or APRS Traveler/user.

1) SUNSAT is now transitting a pre-recorded VOICE on 145.825 during todays passes. The signal is dead full quieting on any 2m FM receiver. Next (last pass) is at 23:32 EST (20:32 PST) tonight (wed).

2) UO-14 was enabled for VOICE just like AO-27 last night. So add it to your tracking list. Uplink is 145.975 and downlink is 435.070 FM! This triples the on-orbit FM satellite voice capabilities.

3) If you have 9600 baud APRS capability (either of the kenwood radios), contact me for additional APRS details...

If you use APRStk, then you will need to use an editor to copy/add AO14 to your LEO.ORB file.. Just copy any satellite in the file, and change its name to UO14 and object number to 20437. Then run APRStk and do INPUT-KEPS-2 to update from a NASA file. THen let it read THIS email and it will update AO14. Here are the keps for AO14 it will find:

UO-14
1 20437U 90005B 00045.20267328 .00000444 00000-0 18722-3 0 5170
2 20437 98.4275 116.2738 0010114 221.5545 138.4850 14.30322319525146

All of these satellites demonstrate how easy it is to operate satellites mobile. I hope it is a trend that will help the mobile APRS traveler...

de WB4APR, Bob

DETAILS: If you are new to satellites, remember the excitement here is that a mobile has no significant coax loss, and so needs no preamps. THus you can hear better than any home station, and for satelites you dont need to be on a hill! Your HT in your hand will hear much better than any radio in your shack (without preamps that is)...

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11. [ao16aprs] APRStk and tuing the Kenwoods

From: Bob Bruninga <bruninga@nadn.navy.mil>
Date: Wed, 23 Feb 2000 10:40:16 -0500 (EST)
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: htaprs@tapr.org, ao16aprs@tapr.org
Message-ID: <LYR833-67556-2000.02.23-09.39.52--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Some people report that APRStk does not tune their radio. I just figured out why this happens to some and not to others.

IF you dont have your FUNCTION-STEPSIZE set to 5 KHz, then the radio will not tune to the commmanded FREQ unless it is a multiple of what you have set in your radio (Default is 25 KHz).. So this might be it...

For those of you that said it wont tune, would you confirm if this fixes it for you?

ALso, APRStk is computing instantaneous doppler. but round-off errors cause it to jump around a bit. I need to add a weighted filter to this routine so it doenst jump around so much... Ill let you know when I finish this..

Bob, WB4APR

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12. [ao16aprs] Re: [htaprs] APRStk and tuing the Kenwoods

From: "Jeff Griffin" <kb2wqm@dandy.net>
Date: Thu, 24 Feb 2000 09:13:23 -0500
To: "TAPR AO-16 APRS Special Interest Group" <ao16aprs@lists.tapr.org>
Cc: <htaprs@tapr.org>, <ao16aprs@tapr.org>
Message-ID: <LYR833-67730-2000.02.24-08.11.57--lyris.ao16aprs#tapr.org@lists.tapr.org>
Rendered body type: text/plain

Has anyone been able to get the D7A into 9600 baud in APRS TNC mode?

73 jeff kb2wqm

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